

# NetworkWorld

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October 18, 2004 ■ Volume 21, Number 42

## Cutting cell phone costs

Switching from buckets of minutes to a flat-rate plan can help cut enterprise wireless phone bills.

**Page 40**



## Feds declare war on spyware scams

■ BY ELLEN MESSMER

Last week's federal complaint against an alleged spyware purveyor is only an opening salvo in what promises to be an all-out effort against spyware-related scams on the Web, according to regulators and industry experts.

Not only did the Federal Trade Commission (FTC) take its first-ever legal action to stop spyware by targeting two businesses said to be engaged in deceptive business practices, but lawmakers

and security companies also have been joining the call to arms as complaints from businesses and consumers continue to grow. Among the recent developments:

- The U.S. House of Representatives this month passed a pair of bills intended to criminalize spyware, following a Senate spyware bill that passed earlier this year (see graphic, page 66).

- California lawmakers enacted legislation that, beginning Jan. 1, bans software that steals personal

**See Spyware, page 66**

## Microsoft to make its 'presence' felt

■ BY TIM GREENE, JOHN FONTANA AND PHIL HOCHMUTH

Presence messaging technology should be all the rage this week as Microsoft and a variety of partners are set to debut products that let users integrate VoIP with instant messaging, Wi-Fi and videoconferencing applications.

At the Fall VON 2004 show in Boston, vendors including Broadsoft, Radvision and Jasomi Networks are scheduled to announce compatibility between their gear and Microsoft's Live Communications Server (LCS). That integration will let users shift

### Building presence

The expanding adoption of instant messaging with business applications is the first step in incorporating presence capabilities in corporate networks.



on the fly between IM and VoIP connections and quickly add parties as they connect to the network. In addition to announcements with other vendors at the VON show, Microsoft is expected to add new voice capabilities to Windows Messenger.

LCS is the cornerstone of Microsoft's real-time communication and collaboration strategy. The initial emphasis on IM and presence awareness ultimately will combine with voice, video, audio conferencing and telephony through support for Session Initiation Protocol (SIP), and SIP

**See VON, page 14**

### A Wider Net

## Giving cell phones the ol' college try

School says landlines not cutting it; one student asks: 'Why do I need this?'

■ BY JOHN COX

**T**wenty-year-old Meghan Padian, a junior at Morrisville State College, likes keeping in touch with other students, off-campus friends, teachers and her parents.

And she does it using the cell phone that came along with her dorm assignment.

"Five hours a day is typical for me and my friends," Padian says. "If you're talking to a girlfriend, you talk for a while about stuff."

The college, southwest of

Syracuse in a hilly, rural stretch of central New York, has just finished issuing updated Nextel phones — Motorola iDen i205 devices with a walkie talkie — to nearly 1,800 students who live on the campus. The only landline connections are a couple of traditional phones in the lobby of each dormitory.

Partly because of the Direct Connect walkie-talkie service offered via Nextel's iDen network, the cell phones seem to have created fast and close bonds among the students.

**See College, page 58**





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# NetworkWorld

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## Exclusive

### Network World Fusion Radio: Training mgmt.

This week's show tackles the issue of training and how to manage it. Anne Marie Roderiques, senior global trade instructor with Vastera, discusses how her company organizes and delivers training to employees and customers around the globe. Stream it or download the MP3. **DocFinder: 4234**

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## Columnists

### Nutter's Help Desk

Single solution for both spam and viruses? Help Desk Guru Ron Nutter helps a user who's looking for a one-stop-shop to shore up his corporate network. Does such a wonder exist? **DocFinder: 4237**

### Telework Beat

Washington State U offers telework certification. Net.Worker Managing Editor Toni Kistner says the new program shows promise, but can it scale? **DocFinder: 4238**

### Small-Business Tech

Happy Meal security pack. Columnist James Gaskin says CryptoCard brings two-factor authentication to small and midsize businesses. **DocFinder: 4239**

### Home Base

Help from my friends. Columnist Steve Ulfelder offers an update on his home office projects, complete with reader advice. **DocFinder: 4240**

## Seminars and Events

### Weekly Webcast Newsletter

Our weekly newsletter delivers information on Webcasts on Network World Fusion — your 24/7 source for solutions and strategies, with links, resources and answers you need. Covering topics such as security, applications and wireless, our Webcasts are focused, single-topic briefings from technology experts. **DocFinder: 2542**

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## News

## Bits

## Cisco and Microsoft pledge security unity

■ Cisco and Microsoft this week are expected to announce a strategic plan to work together to make Cisco's Network Admission Control (NAC) and Microsoft's Network Access Protection (NAP) security plans work together. The companies did not detail exact plans for the integration of their products. While differing in some fundamental technologies, both NAC and NAP intend to provide a way for security managers to inspect desktop computers to ensure they meet security requirements and are free of worms and other problems before letting them access the network. Both firms say it may take at least two to three years to achieve full interoperability.

## Fiorina takes critical view of HP

■ More than two years after completing its buyout of rival Compaq, HP has not done enough to take full advantage of the acquisition, according to HP's chairman and CEO. "We are not fully leveraging what we built," said Carly Fiorina during a speech last week. HP acquired Compaq in 2002 with the purpose of putting together a portfolio of technologies and products — spanning consumer and corporate applications — that would be different from that offered by other vendors, Fiorina said. Fiorina's comments that the full potential of the Compaq acquisition have not been realized were most likely in reference to recent problems at HP's Enterprise Servers and Storage Group. During a conference call with analysts and journalists in August, Fiorina blamed the management of that group for a series of operational problems that cost the company an estimated \$400 million in revenue and \$275 million in operating profit during its fiscal third quarter.

## Microsoft patches keep on coming

■ Microsoft last week released 10 patches, seven with the rating of critical, in its largest single patch distribution yet. The second Tuesday of each month, Microsoft releases patches for its software. The critical rating means exploitation of the vulnerability could allow remote code execution and the propagation of an Internet worm without user action, according to the company's Web site. The vulnerabilities covered by the patches expose 22 flaws in Windows, Office, Exchange and Internet Explorer. Microsoft has issued 38 patches this year. Experts said the most critical patches for corporate customers appear to be MS04-035, which patches a hole in the Windows Simple Message Transfer Protocol component, and MS04-36, which plugs holes in the Windows Network News Transfer Protocol component.

"There was stunned silence when only one of the group of highly paid computer experts could correctly identify the electronic math reckoner."



Layer 8

We reckon Clive Choat will be happy with the knowledge he's this week's winner of our Weekly Caption Contest. Head online to check out our runners-up and check in every Monday for the start of a new round. [www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4242

## The Good The Bad The Ugly



**A real insider.** The FDA last week approved a radio frequency identification chip from VeriChip that can be implanted in humans and used for medical applications. No more fibbing about that extra piece of cake you ate or that exercise routine you skipped, but it's for your own good.



**Software's Wild West.** Protect your intellectual property now or risk having your business sacked by open source-touting bandits in what has developed into a "Wild West" scenario. SCO Group President and CEO Darl McBride warned an audience of tech industry leaders, analysts and investors at the Etre conference in Cannes, France last week. "Once you put something in digital form, it's easy to copy. My question for you is, How are you going to respond if that happens to your IP?" he said. ➤



**A few billion, give or take.** The price tag for upgrading the IT infrastructure of the U.K. National Health Service could be three to five times higher than the original estimate when the project — billed as the world's largest IT project — was launched two years ago. The estimated cost from 2003 to 2013 of the NHS' National Programme for IT now stands at between \$27 billion and \$54 billion, the Department of Health said. The government has not said why the cost is so much higher than expected.

## Intel shelves Pentium 4

■ Intel last week axed its 4-GHz Pentium 4 microprocessor and said it would switch to a new chip design. Published reports said the scuttling of the PC processor is just another embarrassing move for the world's biggest chip maker. The past year has been marked by tectonic shifts in Intel's design and marketing philosophies. After years of promoting clock speed as the most important indicator of processor performance, Intel now says introducing multi-core products and new silicon features are the best ways to improve processor performance. Intel has re-evaluated many product decisions this year after CEO Craig Barrett wrote a memo chastising the company for its string of product delays and manufacturing glitches earlier this year. The memo called for Intel to focus on products that can be delivered on time and without incident, and the decision to forgo the 4-GHz chip seems linked to that emerging mindset.


## Sprint cuts 700 workers

■ Sprint last week said it plans to cut up to 700 jobs as it realigns its business to focus on wireless and Internet services. Sprint said the job cuts, about 1% of its workforce, will affect sales and support at its business solutions unit, which provides services to businesses. The cuts will come from layoffs, attrition and voluntary separation, it said. Sprint said it will stop selling stand-alone services such as long-distance to business customers because of steep competition in the long-distance market ([www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4248). It will focus on multi-product bundles and wireless and Internet services.

## Iron Mountain snaps up Connected

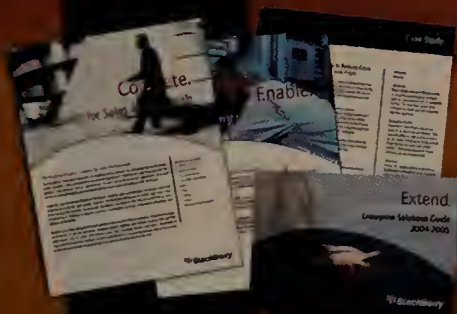
■ Iron Mountain last week said it is acquiring Connected to enhance its online backup and recovery portfolio. The roughly \$117 million acquisition should help Iron Mountain protect, archive and recover data that is distributed throughout an organization. Connected backs up and recovers information from users' laptops and desktops.





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# ISS to proactively thwart attacks

■ BY ELLEN MESSMER

Internet Security Systems is scheduled to announce plans for a system that prevents network attacks before threats are publicly identified.

The company says it will improve upon its Proventia intrusion-prevention line with appliances and host-based software products that depend less on the use of signatures of publicly known exploits to block computer worms and other attacks. Rather, the company says Proventia Enterprise Security Platform (ESP) will block threats based on advanced knowledge of vulnerabilities that ISS researchers glean by working closely with software vendors.

"Avoiding a threat in the first place is a hell of a lot better than reacting to it," says ISS CEO Tom Noonan.

He says Proventia ESP will include security agents for desktops and servers that will continuously perform assessments and report security vulnerabilities to an ISS management console called SiteProtector.

Noonan says this will be possible because ISS has a research team that investigates operating systems and applications of all types for vul-



“Avoiding a threat in the first place is a hell of a lot better than reacting to it.”

**Tom Noonan**  
CEO, ISS

nerabilities, frequently in cooperation with Microsoft and other software vendors. Though ISS typically doesn't reveal knowledge of vulnerabilities until a software vendor is prepared with a patch, the idea behind Proventia ESP is that a kind of virtual patch can be put in place in advance through the intrusion-detection system (IPS) appliance and host-based software.

Noonan adds that ISS has quietly begun doing so in some cases, particularly for buffer-overflow vulnerabilities, with its Proventia and SiteProtector products.

While the company won't announce specific products under the Proventia ESP brand until later this fall, some ISS customers say they welcome new strategies that might provide protection before patches can be distributed.

"What ISS is proposing is absolutely the right direction," says Lloyd Hession, chief security officer at Radianz, a company with a network that connects about 5,000 financial firms around the world. He says the plan, which entails interaction between host-based vulnerability assessment and the network-based IPS, could be a preventive approach.

ISS is the first firm to outline a product-development strategy of this sort, though some others, including Sourcefire, are working to combine vulnerability-assessment information with intrusion-detection capabilities to improve the accuracy of IDS.

IPS products, which block traffic, face a greater burden of accuracy because organizations fear an IPS might block legitimate traffic through false alerts. ■



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# The air is starting to come out of the wireless LAN market

■ BY JOHN COX

Network industry watchers have been warning for months that the wireless LAN market has been overfunded and was due for a shakeout.

The tremors have started.

Investors in Legra Systems, a WLAN switch maker that was unable to convert \$21 million in venture funding into a sustainable business, have sold the company to two other outfits.

Separately, AirFlow Networks' long-term prospects are looking ever more questionable. CEO Robert Machlin says the company is still in business, still trying to license its technology. But AirFlow's listed phone numbers give callers a continuous busy signal and the company hasn't issued a press release since April, when the company announced it was shifting its focus from selling boxes to licensing its switch-on-a-chip technology.

The survivors among those who reaped some of the hundreds of millions in venture capital put toward WLAN start-ups in recent years interpret these events in a way that vindicates their business acumen and product strategies or, perhaps, their good luck. But the still unanswered question is whether enterprise WLAN deployments will be an overlay to the wired network, by independent vendors such as Airespace and Aruba Wireless Networks, or an extension to the wired network, from incumbents such as Cisco and Extreme Networks.

"A lot of people have been expecting this market to consolidate relatively soon," says Aaron Vance, senior analyst with Synergy Research Group. "This is just the early stages of that."

Airespace and Aruba are generally viewed as the two strongest switch vendors. Others include Chantry, Trapeze Networks and Vivato. But there are scores of other WLAN companies selling access points, gateways and adapters, as well as chipsets, specialized systems software, mesh networks, security software and hardware, and network management applications.

Synergy's second-quarter WLAN market figures peg worldwide revenue for WLAN infrastructure (mainly access points and switches and controllers) at \$244 million, up from \$214 million in the first quar-

ter. In terms of units sold, Cisco posted its highest market share ever: 46% for the quarter. The nearest rivals were Symbol at 14%, 3Com at 10% and Proxim at just less than 6%. The total number of switches/controllers has jumped in 2004, but still remains small, and includes products that are mainly security gateways: about 4,700 units in the first quarter, nearly 11,600 in the second quarter.

Not figuring much into those numbers was Legra, whose venture backers have sold the company's assets to NextHop, which markets IP routing software that's widely used by Cisco's rivals; and Fortress Technologies, which sells WLAN security gateways.

NextHop bought some of Legra's software assets, which will be incorporated in new Layer 2 features due out early next year. "Wireless becomes a logical extension of these Layer 2 features," says Dennis Tsu, vice president of marketing for NextHop. "We plan some news in the first quarter once we've done the integration."

Fortress will incorporate several elements of Legra's WLAN switch into future versions of its AirFortress security gateway. Legra used a trio of specialized processors, including one to handle several encryption algorithms at once, to boost the performance of its switch.

Two Legra investors say they are convinced the WLAN market is tilting toward the incumbent players, such as Cisco and Extreme, which are adding WLAN processing, security and management to their switch lines. (See related story, page 17.)

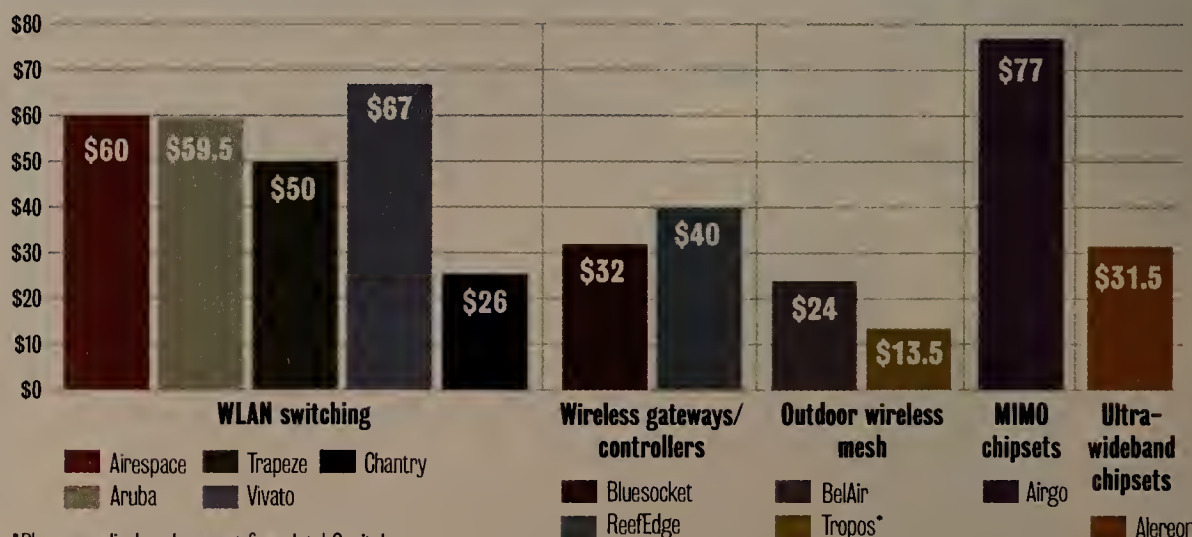
"We continue to believe there is considerable demand by enterprise customers for WLAN solutions," says Daniel Phelps, a partner with Duchossois Technology Partners. "We are not convinced, however, that this demand will be met by stand-alone, wireless-specific equipment."

Another Legra investor, Gary Gannot with Genesis Venture Partners, points to the OEM deals that network vendors are signing with WLAN switch vendors. The deals are "a stopgap strategy until [the incumbents] incorporate off-the-shelf WLAN software, such as that being supplied by NextHop, into their next-generation enterprise [network] equipment," he says.

See WLAN, page 68

## Betting on wireless LANs

A sampling of investments in WLAN companies (in millions of dollars).







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## Q &amp; A

## StorageTek CEO: 'We're not just a tape company'



*StorageTek, a vendor of storage products, has steadily been improving its financial results and evolving its product line since former Xerox executive Pat Martin took over as chairman and CEO four-and-a-half years ago. He talked with Network World Senior Editor Deni Connor last week at the company's annual Forum user conference in San Antonio.*

#### How would you sum up StorageTek's transformation under your leadership?

Financials are the scoreboard in terms of what's going on. StorageTek's revenue has been about flat through its first six months of this year and earnings have risen. In the past four years, we've brought out 75 new products and positioned ourselves to be the largest independent provider of total storage solutions. We are well on our way to achieving that goal.

#### Users have a mindset that StorageTek is a tape company. What are you doing to change that perception?

One of our biggest-selling products is the Virtual Storage Manager [VSM] — that's a disk-based product that sits with everyone's mainframes. We have

about a 60% market share in that business. VSM lets you manage your tape subsystems through a disk cache, so you are running at disk speed and not worrying about the time delays of tape mounts and so forth. Bringing VSM to the open world like we did this week [the product now works with a host of operating systems] is a natural progression for StorageTek.

#### Since 2001, your disk-based sales have increased to a fifth of that of tape. How has that happened?

When we said we were going to be a total supplier of storage solutions, we had four steps in our journey. The first thing we did was reinvest in our tape and tape automation base. We brought out three generations of tape and tape drives in the last three years and a new series of tape libraries.

Second, we saw the emergence of another tier of storage called ATA and positioned ourselves to play in that area. Where we felt we could have a strong presence is in the information life-cycle management [ILM] area, which is all about putting the right information at the right place at the right time.

The other area of ILM that is a big opportunity is helping our customers manage the backup and recovery of data more simply and reliably with less labor. Today, 50% of the labor in the data center in one way or another is associated with backup and recovery. So it's the last big labor pool sitting in the data center since our tape libraries have taken out the tape jockeys of 10 years ago. [A tape jockey is a

person who swaps tapes in and out of auto-loaders.]

The last part is about archival information. Our customers are being inundated with regulatory requirements such as [Health Insurance Portability and Accountability Act]. The ability to store that information in an effective way and be able to retrieve it is a big challenge for customers.

ILM is where we are putting all our emphasis. But that doesn't mean that tape is going to go away; we are going to continue to offer tape products.

#### Do you do that by tiering storage or putting the disk in an intermediate position between primary storage and tape as an archive?

Yes. You use primary disk for business-critical data. Today, 80% of the information sitting on primary disk is duplicated data in one form or another. If that information isn't accessed for 30 days after it is created, it still resides on our disk subsystems taking up space and quite frankly not being very useful. So what we're about is taking that information and moving it from primary disk to Serial ATA [SATA] drives and from there to our tape libraries. We do it in an automated way based on policies defined by the users.

#### How have users' moves to disk-based backup affected tape revenues at StorageTek?

We haven't seen any material impact on our business. We have a product called EchoView that backs

See Martin, page 66

# Groove looks to enhance real-time collaboration

■ BY JOHN FONTANA

Groove Networks this week will take the wraps off integration middleware that lets users securely integrate data from back-end systems with the vendor's client-based collaboration software.

The new Enterprise Data Bridge provides a bidirectional path to pull data from CRM, ERP and other back-end data stores into Groove Virtual Office. Users can share the data, modify it and update back-end systems with any changes, all from the same interface using customized forms-based Groove Virtual Office applications.

The offering begins to fill in gaps for corporate users, who lacked an easy way to incorporate back-end data into collaboration environments. Users had been clamoring for the links to back-end data, and Groove Virtual Office can be a way to plug end users into business processes.

"The interesting thing is that we knew there were other possibilities and that we could extend Groove into other areas," says

Neville Byford, director of IT strategy for collaboration at Hitachi Data Systems. The company is in the initial stages of rolling out Groove Virtual Office to support basic collaboration for project teams.

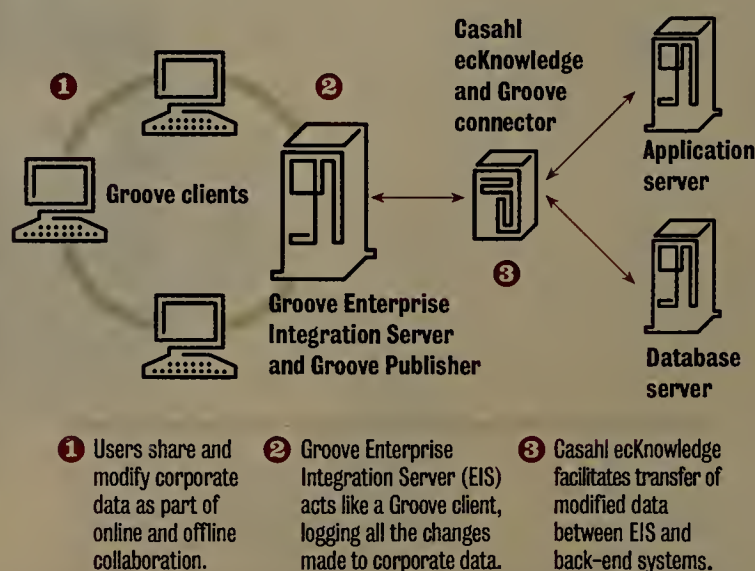
For example, he says, when a project is kicked off in a project management system it could trigger the creation of a Groove Virtual Office workspace, invite the needed participants and populate it with data from the project management system.

He says the feedback loop from Groove Virtual Office into back-end systems also is key. "It is the consistency of the data," Byford says. "We lessen the risk of having multiple views of the same data. And it improves our ability to respond to business situations."

The Enterprise Data Bridge includes a connector Groove partner Casahl developed that runs on that vendor's ecKnowledge application integration software. Casahl is known for its software that deeply integrates data between disparate systems, such as Lotus Notes and Microsoft Exchange.

## Getting in the Groove

**Groove this week will release middleware integration software called Enterprise Data Bridge that makes back-end data available to Groove's Virtual Office collaboration client.**



The Groove connector and ecKnowledge map back-end data into Groove Virtual Office forms-based applications. It also supports replication of data from Groove Virtual Office into back-end systems. Also part of the Data

Bridge is the Groove Enterprise Integration Server, which acts as a peer to Groove Virtual Office clients and the always-available integration point with the Groove connector. The Groove Publisher bot also is part of the Data Bridge

package and can push data out to clients.

Finally, the Data Bridge uses the Groove Virtual Office 3.0 collaboration client software, which supports offline data and applications use.

The ecKnowledge software comes with the Groove connector and one from Casahl. Those connectors include Oracle, Lotus Notes and Microsoft Exchange.

"We don't want to replace document repositories and data warehouses," says Matt Pope, senior product manager for Groove. "Groove is not a long-term data repository. It is a place for sharing, for business process, collaboration and coordination until the job is done. The key thing with the Enterprise Data Bridge is that you can leave existing IT assets such as databases where they are and leverage them for what they are good at, which is transactions and data warehousing."

The Enterprise Data Bridge costs about \$25,000, including 100 service-access licenses for each end user the Groove Publisher bot service supports. ■





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# Vendor marriage could ease SOA mgmt.

■ BY JOHN FONTANA

Web services vendors Actional and Westbridge this week are set to merge and combine elements of their management and security software into a single platform designed to help companies manage and monitor service-oriented architectures.

The merger is evidence of the consolidation taking place among Web services vendors, which included last month's acquisition of Flamenco by Digital Evolution. The mergers, acquisitions and partnerships mean corporate adopters should have fewer piece parts to pull together to build an SOA.

The company, which will be operating under the Actional name, still plans to offer its traditional independent products such as Actional's SoapStation for management and Westbridge's XML Message Server for security. It also plans this week to introduce the Actional SOA Command and Control Platform for coordinating and governing everything that happens within an SOA, including identity and directory services and policy management, and monitoring other Web services functions such as gateways, firewalls, brokers and message queuing.

## Multiple paths

"People are more pragmatic. They're stepping back and saying there are different parts of the infrastructure we need to address in relationship to security, management and integration such as routing, communication and transformation," says Frank Kenney, research analyst with Gartner.

The two companies also will combine Actional's Looking Glass and Westbridge's XMS

Management Console into the SOA Command and Control Platform. The suite will include agents that can run on infrastructure nodes, including SoapStation and XMS, as well as other SOA products from competitors such as Blue Titan, DataPower and Sonic.

Actional officials say the Command and Control Platform will give users a bird's eye view and unified control over what they call the "fabric" layer of the SOA, where security, management, message queuing and other services reside.

"Together they coordinate all the activities in the fabric and allow you to do things like drive policy and compliance into other platforms, into their native engines," says Tom Ryan, former CEO of Westbridge and now the head of Actional.

Those capabilities eventually will thrust Actional into competition with traditional management vendors such as Computer Associates and HP, which are re-architecting their management products for Web services and SOA.

"Actional has articulated a very thorough road map vs. some of the other acquisitions in this market, and that bodes well for them," says Sandy Rogers, research director with IDC. "Enterprise buyers need a comfort level with how these acquisitions and mergers map into their own strategies."

Actional plans to roll out the Command and Control Platform in two phases.

The first, which is expected to be available next month, will include the ability to control service level, availability and performance across SOA products, and have one console for policy management. In the second phase, expected to be available in the first half of next year, Actional will offer policy management across the entire SOA fabric, and will introduce a set of open policy management interfaces used to push policies into an SOA.

The Command and Control Platform costs \$75,000.

As part of the merger, the combined company will receive a \$12.9 million round of funding from investors that include August Capital, ArrowPath Venture Capital, Granite Ventures and International Capital Partners. ■

## Merger maneuvers

Web services vendors Actional and Westbridge will merge but plan to continue offering their existing management and security products, as well as a new product called Actional SOA Command and Control for managing and monitoring an entire SOA.

Products	Description	Name change
<b>Actional</b>		
SoapStation	A proxy that brokers interactions between applications that provide Web services. Also, provides life-cycle management, service upgrade management, access control, logging/reporting of service activity; provisioning, policy control.	NA
Looking Glass	Management server and centralized control to visualize, monitor and manage Web services networks.	NA
<b>Westbridge</b>		
XML Message Server (XMS)	XML Firewall to secure Web services traffic. Also includes transaction monitor and integrated service manager.	Actional XMS

# Cisco, IBM team on net access

■ BY DENISE DUBIE

Cisco and IBM last week said they would tie together products that give customers better network access control and help prevent worm and virus attacks.

The companies said updates to IBM's Tivoli software would work with Cisco gear to scan devices trying to connect to corporate networks. The collaboration would ensure devices allowed to access the network were compliant with network security policies. The products also could quarantine non-compliant client devices to a virtual LAN where they could be evaluated.

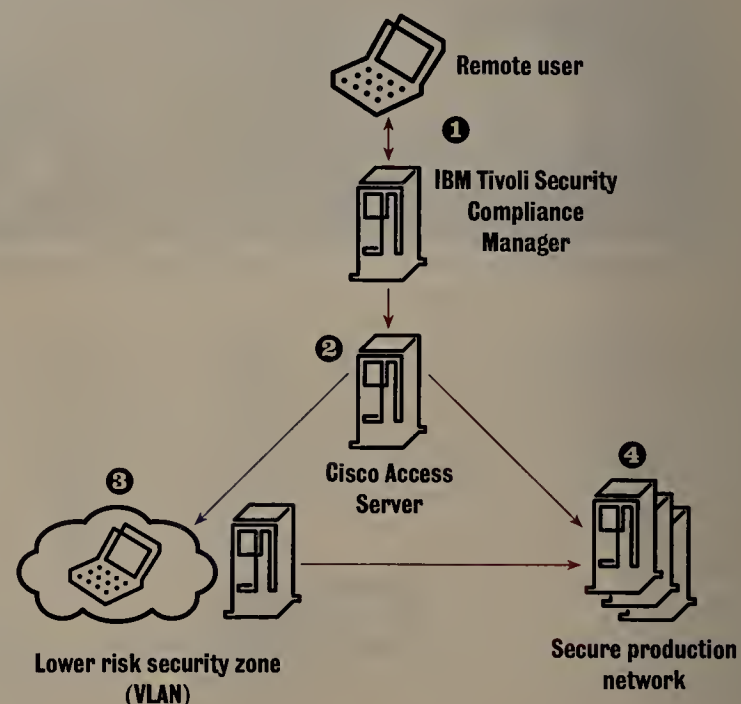
The companies have integrated Cisco's Access Control Server (ACS) — a RADIUS-based authentication server — and IBM Tivoli Security Compliance Manager software to determine which devices and users could access a network and if those devices had features such as proper anti-virus software. IBM Tivoli Security Compliance Manager is software that lets customers define security policies and monitor compliance of those policies.

For example, a Tivoli software agent installed on a user endpoint would capture the device credentials and scan those against pre-set policies in the compliance software installed on a dedicated server. At that point, the device credentials would be

See Teaming, page 14

## Network bouncer

IBM and Cisco will couple their products to automate the process of granting network access to remote users and unknown client devices.



- 1 IBM Tivoli Security Compliance Manager software scans client devices trying to access the network. The Tivoli software compares client information with pre-set policies to determine compliance.
- 2 The device then requests access to the network through the Cisco Access Server, which decides based on pre-defined rules and access data stored in its systems if it should grant or deny access.
- 3 If denied access, the device is quarantined into a virtual LAN or subnet, until it can be brought into compliance by IBM Tivoli Provisioning Manager software, which could update the client with the appropriate software or patches and/or alert IT staff to take action. Once compliant, the permissions process starts over and the device is granted access.
- 4 If found compliant, the device is allowed access to the network.



## More online!

In this Webcast, Johna Till Johnson, Network World's columnist and founder of Nernertes Research, offers practical advice for structuring what's being called "The New Data Center."

DocFinder: 1948



# FCC action charges up broadband over power lines

■ BY GRANT GROSS

The FCC last week cleared the way for power companies to roll out broadband over power line service by approving a set of rules designed to limit interference to other radio frequency devices such as amateur radios.

The FCC's action on BPLs requires providers of the alternative to cable modem or DSL service to employ devices that can switch frequencies if they cause interference and that can be shut down remotely.

FCC Chairman Michael Powell acknowledged concerns from the American Radio Relay League and other ham radio operators, but he called the FCC's adoption of the BPL rules a "historic day" for the future of U.S. broadband services. Powell called amateur radio an "important resource" in the U.S. communication system and promised that the FCC would pay attention to interference issues.

But Commissioner Michael Copps questioned if the rules will keep the FCC as involved as it could be in refereeing interference complaints. Copps also criticized other commissioners for not dealing with other issues, including 911 service, access for disabled people and whether electricity customers should subsidize BPL rollouts in these rules. He supports BPL rollouts.

Officials from Current Communications Group, which has partnered with Cinergy to provide BPL in parts of Indiana, Ohio and Kentucky, say the FCC decision might open more power companies to using BPL. Among the benefits of BPL is that the devices monitor electrical blackouts, and power companies can pinpoint outages without relying on customers to call and complain.



**FCC Chairman Michael Powell says adoption of broadband over power line rules is of historical significance.**

Through a second joint venture with Cinergy, Current plans to deploy BPL to smaller municipal and cooperatively owned power companies covering 24 million customers across the U.S. At least four U.S. power companies are offering commercial-level BPL service to customers, and others are offering BPL on a test basis.

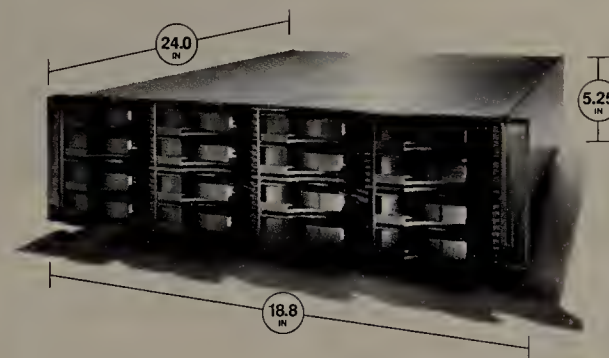
The FCC rules should provide some assurance to power companies considering BPL, says Jay Birnbaum, vice president and general counsel for Current Communications Group. Although many power companies take a conservative approach to offering new products, the FCC action on interference removes one obstacle, he says.

The FCC rules establish so-called "excluded frequency bands" where BPL cannot operate because of potential interference with aircraft receivers. The rules also establish "exclusion zones" in locations close to sensitive operations such as Coast Guard or

radio astronomy stations. BPL providers also must consult with public safety agencies, aeronautical stations and other potentially affected government groups before

rolling out BPL.

*Gross is a correspondent with the IDG News Service.*



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## Google debuts desktop search

■ BY ANN BEDNARZ

Google last week unveiled a beta version of its long-awaited desktop search application, built with the same technology that powers its Google.com Internet search site.

Google Desktop Search is free, downloadable software designed to search local PC sources. It can retrieve data in Microsoft's Outlook, Word, Excel and PowerPoint applications, as well as instant messaging sessions on AOL Instant Messenger.

The software also lets users retrieve content from Web pages viewed with Internet Explorer. When a user views a Web page, Google Desktop Search automatically caches its content so the user can later see the same version of the page, even if its live content has been altered.

The market for searching desktop resources is not new — Google has competition from many niche players, such as Blinkx, Copernic, ISYS Search Software and X1, which offer alternatives to the basic e-mail and file search functions built into Microsoft's systems.

But there's been a growing fervor surrounding the technology in recent months since big guns Google, Microsoft and Yahoo

indicated their intention to tackle desktop search. Google is the first of these companies to deliver a working version.

To get started, Desktop Search indexes a user's hard drive. This process could take several hours, but it occurs during times when the computer is idle, Google says. The software then continuously scans for new content and adds it to the index. When a user downloads a new e-mail in Outlook, for example, Desktop Search can find and index it within seconds, the vendor says.

Once the initial indexing is complete, users can run a search using the Google.com Web site, so that both PC and Web sources are searched simultaneously. When a user searches through Google.com, Desktop Search runs the same search in parallel on the user's computer. If Google Desktop Search finds relevant results, those results appear on the Google.com search results page, flagged as coming from the user's own content sources.

Alternatively, users can bypass the Web and search for local information by accessing Google's software from the Windows task bar.

Google Desktop Search is available at <http://desktop.google.com>. ■



## VON

continued from page 1

for Instant Messaging and Presence Leveraging Extensions (SIMPLE). Microsoft Messenger uses LCS to publish presence of users and make IM and voice connections.

Presence is a collaborative technology that makes it possible for users to announce their connections to a network and see who else is connected and by what means, including VoIP. The technology also supports communication between applications and users and application-to-application integration. In a network, presence infrastructure is used to announce which applications are up, what their functions are and what types of protocols they accept. Vendors are building on this capability to bring users together to promote better communications.

High-end corporate users today make the most use of complex presence applications, observers say. For example, one Jasomi financial-services customer uses presence as part of its trading network. Traders can conduct preliminary business via text messaging and patch in a voice or video connection to complete transactions using LCS, according to Jasomi's CEO Dan Freedman. He would not name the customer.

Jasomi is scheduled to announce that its rack-mounted PeerPoint session border con-

## Presently speaking

**Although vendors are making use of presence in products today, the technology has shortcomings that corporate users should be aware of as they plan to incorporate it in their communications arsenal.**

## Challenges

- Standards remain under development.
- Security, identity management issues need to be worked out.
- Automating status of users is needed to make presence practical.

## Strategies

- Plan to integrate directories with presence platforms.
- Choose vendors of presence-related technology — instant messaging, VoIP, videoconferencing — with an eye toward demonstrated compatibility with other vendors.
- Establish a QoS infrastructure to support future presence applications.

trollers will work with LCS to enable IP communications to cross firewalls or network address translation devices. Installed at the edge of a network, PeerPoint hardware makes it possible for multimedia traffic to cross firewalls without arduous reconfiguration of the firewalls.

Similarly, Radvision, which makes a multimedia conferencing platform, is expected to announce cooperation with Microsoft that will make it possible to use Radvision software through Windows desktops.

While it would not provide details about its announcement with Microsoft, Broadsoft says it will include a joint development agreement to presence-enable

voice calls. The agreement also calls for making it possible to launch multimedia connections within any Windows application. For example, someone using Excel could launch a sharing session to collaborate on a spreadsheet with a colleague.

Broadsoft would integrate its suite of PBX, IP Centrex and collaborative conferencing software with LCS. Such integration would let businesses tap the collaboration suite by buying it or by buying it as part of a service hosted in a carrier network.

IBM has integrated presence in Lotus Notes, but its use is in the early phases, the company says.

For its part, Microsoft plans to introduce the next LCS 2005 client, which is slated to ship in December. The client — code-named Istanbul — is the follow-up to Windows Messenger 5.0 and is expected to add voice capabilities including taking voice calls routed by PBXs and softswitches. It also will support internal routing of calls via Active Directory.

"[Today] you can link voice calls in to people within your organization that are listed in Active Directory, but you can't do it externally," says a source close to Microsoft, who asked not to be identified. The client will use presence support in LCS to find other voice-enabled end users who are online, the source says. "Microsoft is taking some baby steps with its direction and providing a cheap way to make internal voice calls. Microsoft is trying to build up trust as a voice provider. People are not going to be throwing out their Avaya or Lucent PBXs to go with Microsoft for voice."

What is more likely, says Melanie Turek, an analyst with Nemertes

Research, is Microsoft will try for compatibility with IP voice gear and focus on blending voice with applications. "They will go to telephony vendors for voice and integrate with LCS for application-based presence," she says. "I'm not convinced they have an easy road ahead of them."

That's because telephony vendors are already supporting presence-based conferencing, she says.

Ericsson, for instance, is expected to announce at VON that its IP Multimedia Subsystem conferencing software will make IM, VoIP and videoconferencing available to anyone from any location. Similarly, Siemens has been selling its HiPath Open-Scape collaboration suite based on LCS since last year, and is said to have announcements about it at VON that it would not reveal.

Businesses look forward to presence capabilities because they can save on costs by running all forms of communications over the same network. Users will become more productive because they will be more accessible on a wide variety of devices, says John Streck, director of networking research and development at North Carolina State University, who is moderating "The Killer App: Using Presence and Instant Messaging" on Wednesday at VON.

"Presence adds a lot of value because it adds context to an end user's network identity, and lets you optimally deliver data to an [end user]," Streck says.

Despite all the chatter about presence, industry observers say wide adoption of the technology is still years off. "[Presence] is in the same situation MPLS was four years ago," says Zeus Kerravala, an analyst with The Yankee Group. "There's lots of promise, but a limit to what it can do in an open, multi-vendor environment."

Turek agrees. "It's a lot like VoIP in that it took a while for IT executives to understand the real value of it," she says. "They say, 'I can see the value, but I can't measure it and I have other priorities right now.'"

According to an IDC study this year of 492 IT executives, only 156 used IP PBXs. Of those, 7% said they are using the IP voice gear with IM and presence. "That is a significant finding that presence is not taking off yet," says Paul Strauss, an analyst with IDC who conducted the research. ■



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## Teaming

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passed to ACS for further interrogation.

If deemed up to snuff, the device would be granted access. If not, IBM Tivoli Provisioning Manager — a software distribution product — would scan the device to see if it could provide the appropriate patches to let the device gain access. In cases in which it could not, the software would alert IT staff to the device's presence in the quarantined area and notify them to take appropriate actions.

"The products will work together to access and provision network services based on identity. The two in concert can get a very granular picture of who is trying to gain access and what is on the machine at the time," says Dave King, director of business development for the security technology group at Cisco.

The products are set for December and draw on technology Cisco uses in its Network Admission Control (NAC) initiative, which involves the company partnering with anti-virus vendors to scan client devices and determine if they can gain access to a network. The Cisco/IBM effort, the companies say, is a step beyond NAC by taking into consideration more than virus definitions. For example, the Tivoli compliance software will scan for operating systems, patches, firewalls, applications such as Kazaa and viruses to determine if a device can gain access.

The joint effort could let customers eliminate some guesswork in granting network access, industry watchers say. "The two companies realized they can't do it all alone and that working together will help customers get a handle on the authentication nightmare of employees connecting all over the place," says Chris Byrnes of the Meta Group. ■





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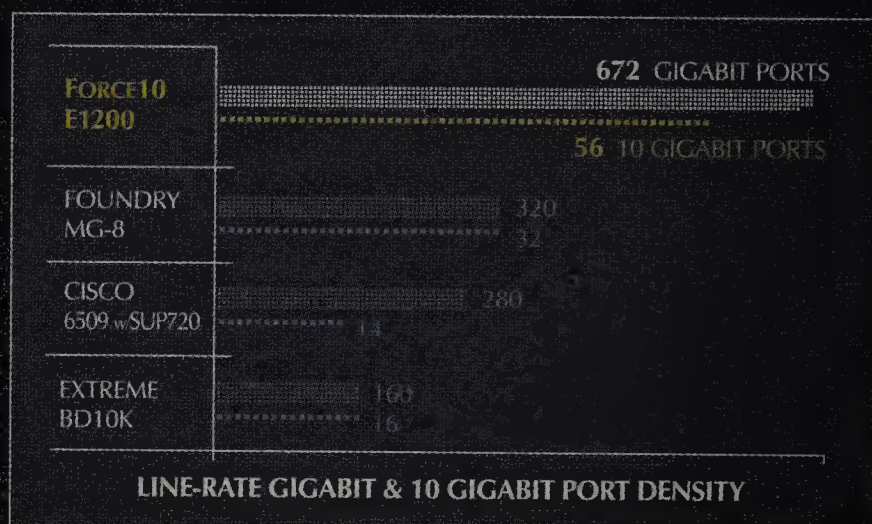
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# Infrastructure

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## Foundry switch software secures WLANs

■ BY PHIL HOCHMUTH

Foundry Networks is adding features for its wireless LAN switch software that the company says will help customers make WLANs more secure and easier to manage while allowing for increased wireless client roaming.

New features on its access points let the boxes detect unauthorized WLAN users and equipment inside a firm. New software features for Foundry's WLAN-enabled Ethernet switches include the ability to detect and configure Foundry IronPort 200 access points, and support for Layer 3 roaming.

Foundry offers a software upgrade that adds WLAN switch features to its FastIron Edge switch products features, such as access point management and detection. The latest software upgrade lets Foundry's FastIron Edge Switches detect when a Foundry-based access point is plugged

into a port on the switch, and configure security and access settings without requiring an IT staff member to access the switch's management console.

The upgrade also lets FastIron Edge switches support Layer 3 wireless roaming on WLAN clients. This lets WLAN users with laptops, PDAs or Wi-Fi-enabled IP phones roam among WLAN-enabled Foundry switches, and across switches that are on different subnets. Previous Foundry WLAN gear supported Layer 2 roaming among switches on the same LAN segment.

Upgrading LAN gear to handle WLAN switch functions is an easier way to deploy a secure wireless infrastructure than with other products that introduce WLAN appliances or separate switches, says Michael Hong, a Foundry product marketing manager.

Hong says Foundry's approach also differs from Cisco's Structured Wireless-Aware Network blueprint because the Cisco architecture requires a Catalyst 6500 switch

with a special blade to handle WLAN security and access point management.

A new software upgrade for Foundry's access points adds radio frequency monitoring to IronPoint 200 devices. This allows an access point to be deployed as a dedicated monitoring node for unauthorized WLAN radio traffic. Instead of connecting users, the access points can be configured to "sniff" the air for WLAN frequencies and network IDs that are not allowed on the WLAN. This could include detecting unauthorized media access control addresses on WLAN clients that are not part of an organization's network, or finding rogue access points.

Configuring WLAN access policies associated with the monitoring feature is performed through Foundry's IronView Network Manager software, which runs on a separate management PC.

Last August, Foundry launched its IronPort line of WLAN products, as well as software that adds WLAN switch capabili-

ties to its FastIron Edge switch product line. The launch counters Extreme Networks' foray into WLAN earlier in 2003, and an attempt to lure Foundry switch customers who were installing other vendor's WLAN gear. Foundry's WLAN gear also competes with products from 3Com, Cisco and Nortel as well as WLAN-focused vendors such as Aruba Wireless Networks, AirFlow and Trapeze Networks.

The IronPoint 200 access point costs \$800. The IronView Network Manager software is available for \$10,000 for the Advanced Edition, which manages all Foundry devices, or \$2,000 for the version that only manages IronPoint devices. A WLAN FastIron Edge Switch software package costs \$4,000 for a 24-port FastIron Edge switch; \$6,000 for a 48-port switch; and \$10,500 for a 96-port switch. Users already running WLAN-enabled FastIron switches can add the new auto-configuration and Layer 3 roaming features with a \$1,000 upgrade kit. ■

### Short Takes

■ **Caymas Systems** is introducing appliances that secure network traffic by drawing on existing network infrastructure to enforce access restrictions. The devices, called **Caymas 220, 318 and 525**, enforce a variety of access policies as well as logging and auditing who accesses what resources. The boxes are less expensive than full-blown identity management platforms, the company says. Caymas 220 for up to 100 users costs \$10,000; Caymas 318 for up to 500 users costs \$25,000; and Caymas 525 for up to 2,500 users costs \$45,000.

■ **SonicWall** last week introduced a stand-alone, content-filtering appliance for businesses with 50 to 1,000 users. The offering targets businesses that might have a firewall/VPN box. Called **Content Security Manager 2100 CF**, the device checks URLs being sought against a library of blocked Web addresses and drops requests if they match. The CSM 2100 CF is available for \$2,400 for an appliance licensed for 25 users. The appliance alone costs \$2,075.

## IBM bolsters its mainframe platform

■ BY ANN BEDNARZ

IBM is working to make the mainframe — with its reputation for resilience and security — a key element not only in companies' legacy environments but also in their future IT blueprints.

Big Blue has used recent customer events in New York, Paris and Tokyo to share future plans for its venerable mainframe computing platform, which celebrated its 40th anniversary earlier this year.

Customers are looking for the mainframe to play a wider role in a heterogeneous IT infrastructure, says Colette Martin, a zSeries program director at IBM.

Analysts say mainframe customers continue to invest in the platform. At a recent data center conference, Gartner polled mainframe users and found the larger sites are not scaling back their mainframe investment, but are continuing to grow the platform through legacy and new workloads such as Linux applications.

While the number of IBM mainframe installations has declined each year — because of sales at the low, sub-100 MIPS end of the market — the number of million instructions per second IBM annually ships and the amount of mainframe capacity installed continues to grow, Gartner says.

### The Big Iron

IBM recently detailed a handful of technology enhancements centered around its mainframe.

Technology	Significance	Availability
Enterprise Workload Manager for z/OS	Lets zSeries management tools monitor and manage applications across IBM eServer platforms.	Q4 2004
GDPS Hyperswap Manager for single-site recovery	Enables dynamic management of disk subsystems within a single site.	Q1 2005
zAAP with z/OS 1.6	Lets companies more economically integrate Java-based technology workloads with mainframe resources.	Now
Communication Controller for Linux on zSeries	Simplifies integration of SNA networks with a Linux image; replaces functions provided by 3745 and 3746 Communications Controllers.	Q2 2005
zTPF Enterprise Edition V1.1.0	Upgrade of operating system designed for heavy transaction processing.	Now

To continue that success, IBM unveiled a variety of technology upgrades planned for its zSeries mainframe family.

Extending the mainframe's management capabilities is one tactic. IBM plans to deliver by year-end its Enterprise Workload Manager for z/OS designed to let companies

monitor and manage applications across IBM eServer platforms — not just across its zSeries mainframe systems. Existing z/OS workload management tools will be able to interface with the workload managers implemented in other eServer operating

See IBM, page 18



WIRED  
WINDOWSDave  
Kearns

## Oracle CEO Ellison: Don't tug on Superman's cape

**N**ever underestimate Larry Ellison. Former PeopleSoft CEO Craig Conway is the most recent of those vanquished by the rogue from Redwood City. But there's another triumph coming that might be sweeter for Ellison if only because other people thought he stumbled badly a half-dozen years ago when he might have been ahead of his time.

In 1995, Ellison boldly told the world that he would take on the Microsoft monolith with a new breed of computing device, dubbed the network computer. This would be a low-power, stripped-down hardware platform running a low-power, stripped-down operating system with a Web browser as its user interface. Ellison touted a

vision of a \$500 computing device on everyone's desktop. From this idea was born the entire application service provider model of computing in which users would no longer purchase software licenses, but would rent or lease the services as they needed them delivered via the browser on their network computer.

The ideas garnered lots of support in the mid 1990s but eventually floundered as people wanted more power on their desktop. With prices on standard PCs dropping below \$1,000, the network computer looked less desirable. We'd thought Microsoft had won that war, but it might have only won a battle.

A couple of weeks ago, at the Fall Processor Forum conference in San Jose, Bob Bailey, CEO of chip maker PMC-Sierra, announced a new consortium of chip makers aligned with Asian (primarily Chinese) manufacturers that would relaunch the network computer, dubbed by some the "open source" computer. One

major difference with the new network computer would be price — Bailey estimated a retail target of \$150. Not only would it cost less, but it also would do more.

The new network computer would run an almost free distribution of Linux coupled with free or low-cost open source applications on top of a commoditized hardware platform. Server-based computing is also helped by today's larger, less-expensive bandwidth than that available in 1995. The new network computer's success isn't guaranteed, of course, but the genesis was Ellison's idea. And to paraphrase the late Jim Croce:

Don't tug on Superman's cape  
Don't spit into the wind  
Don't pull the mask off the Lone Ranger  
And you don't mess with Larry Ellison.

*Kearns, a former network administrator, is a freelance writer and consultant in Silicon Valley. He can be reached at wired@vquill.com.*

### Tip of the Week

**L**arry Ellison is a fascinating guy, but there are other software company leaders with interesting stories, too. Last week in the Identity Management newsletter ([www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4226) you could have met a CEO whose father is prime minister of an eastern Mediterranean country. This week I'll be talking about the CEO who's featured conducting the orchestra on a Gilbert and Sullivan recording as well as another who once fell into a piranha-infested river.

## EnKoo fattens up remote SSL appliances

■ TIM GREENE

EnKoo this week is introducing SSL remote-access gear it says supports more users and lets them connect to more applications with less administrative work involved.

The company's enKoo 3000 appliance is designed to handle up to 200 concurrent users, twice that of the company's previous high-end box.

The devices sit between the Internet and corporate servers, and proxy SSL sessions between those servers and browsers on remote computers. The traffic passes through firewall ports normally left open.

New software lets enKoo devices exploit existing entries in Active Directory and Lightweight Directory Access Protocol to authorize what network resources users can access. Previously, customers had to enter that data manually.

New appliance software also lets Citrix customers access MetaFrame servers and the applications they support via Web browsers rather than Citrix client software. The software upgrade lets enKoo customers give end users Web access to terminal services. This broadens the range of applications remote users can reach via the enKoo boxes.

The Citrix support is likely to save heating/air conditioning distributor Slakey Brothers \$20,000

per year, says Steve Gillespie, IT systems supervisor for the Elk Grove, Calif., company. About half the 200 users accessing the network via Citrix are being shifted over to the enKoo box, which eliminates the need for that many Citrix client licenses, he says. Those end users being switched also will have easier network access, he says, as using the Citrix client requires multiple logons, first to the Slakey firewall and then to the Citrix server.

When remote users access their e-mail, it doesn't sync properly with the Microsoft Outlook server because the laptops have sepa-



The enKoo 3000 SSL remote access gateway supports 200 users as well as Citrix and Terminal Services.

rate .PST files, one for the laptop and one for the Citrix client, that keep track of the e-mails, he says. The enKoo box eliminates that problem because there is no separate .PST file needed.

The new enKoo gear is likely to

make the company more attractive to the small and midsize businesses enKoo is wooing, says Michael Suby, an analyst with Stratecast Partners.

The drawback to the enKoo boxes are that they don't have as

many features and support for as many applications as some of the other vendors, he says. But the company says it plans to add them, and the new box and software will fall in line with that plan.

The enKoo 3000 ranges from \$4,000 for a license for 25 concurrent users to \$10,000 for a license for 200. Software support for Citrix costs \$1,000 to \$3,000 extra, depending on the number of users the box supports. Terminal services software costs the same.

The Citrix and terminal services software are also available for enKoo's older, smaller hardware, the enKoo 1000 and 2000. ■

### IBM

continued from page 17

systems, IBM says.

Another forthcoming feature enables backup and recovery of single-site systems. IBM's Geographically Dispersed Parallel Sysplex (GDPS) Hyperswap Manager for single-site recovery is an entry-level version of existing technology, aimed at smaller companies with single mainframe sites, Martin says. Due early next year, the utility lets companies dynamically manage disk subsystems across one site.

Also designed to ease IT budget strain is IBM's Communication Controller for Linux on zSeries, due by mid-2005. The technology is aimed at simplifying the integration of legacy SNA networks with Linux applications; it replaces functions provided by IBM's discontinued 3745 and 3746 Communications Controllers.

Instead of relying on outboard units that sit outside of the mainframe to handle SNA communications, the new communication controller resides on a zSeries mainframe to simplify setups and reduce costs, Martin says.

To help make zSeries suitable for a range of applications, IBM announced support for zSeries Application Assist Processor (zAAP) with z/OS 1.6. A specialized Java execution processor, zAAP is designed to increase Java performance on the mainframe.

zAAP is an engine to run mainframe, Java-based workloads, Martin says. Users can offload Java instructions from the zOS engine to the zAAP engine, and free standard mainframe processing capacity for other work or to save money — users don't incur IBM software charges for anything that runs on zAAP, she says.

IBM has had special processing gear to handle Linux workloads — with its Integrated Facility for Linux (IFL) processor, for example.

The zAAP engine is similar technology for Java, Martin says.

To round out the technology news, IBM announced z/Transaction Processing Facility (z/TPF) Enterprise Edition V1.1.0 — an operating system designed for high availability transaction processing. Capable of processing tens of thousands of transactions per second, z/TPF supports C/C++ and 64-bit zSeries architectures. It also supports the latest zSeries 10G Ethernet adapters on IBM's zSeries 890 and 990 server lines.

z/TPF brings the increased productivity of a modern Linux development environment to TPF — which is critical for responding quickly to changing user requirements, says David Lauderdale, CTO and senior vice president at travel services provider Worldspan in Atlanta. "In our business, we need to be able to rapidly respond to thousands of users on a global basis with information that is changing every second," Lauderdale said in a statement. ■



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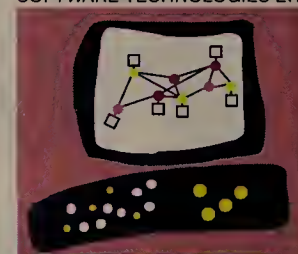
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# Enterprise Applications

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## Mgmt. software puts IT in perspective

■ BY DENISE DUBIE

More network management vendors are adding application and service-level management features to their wares in an effort to help customers more quickly resolve performance problems with business-critical applications, companies say.

New and upgraded products from

Aprisma, BMC Software, Concord Communications, Euclid and Magnum Technologies promise to help network executives prioritize troubleshooting and problem resolution based on pre-defined priorities and rules established between IT and business managers.

Dubbed business service management (BSM) software, which Forrester Research defines as an evolution of service-level management, the wares are said to measure IT service quality, report results and take action to ensure the quality stays within agreed parameters.

Companies such as BMC, HP and IBM have touted the benefits of relating IT events to application and business service performance this year, and now more network management software makers are joining the cause. Aprisma this week will unveil a software application called Spectrum Business Service Intelligence (BSI) Solution, which will provide a user interface that shows which business services are affected by a network event, Aprisma says.

Yet to monitor a service from start to finish, these vendors also must be able to map the path an application or service takes from request to fulfillment.

Take Concord. Its BSM offering, Business Service Console resides on a server, and IT managers use a wizard-like tool to define and model business services. And to add more application intelligence to its software, the company recently announced Version 5.7 of its eHealth Suite can retrieve information from custom and packaged applications running across Windows, Java and the Web. Concord also announced a partnership with Siebel Systems that will let its software extract more management data from Siebel applications. EHealth Suite is the foundation from which the company's Business Service Console add-on application works.

EHealth feeds Business Service Console data and compares real-time performance metrics, such as application response time, network latency or server utilization against pre-set performance objectives based on specific business services. It alerts staff when network or server events could affect application performance.

BMC, releasing its Service Impact Manager 5.0 this week, also uses modeling technology to help create a visual picture of the application path. Aprisma says its BSI product uses mapping technology to relate network components, servers, and applications together into logical services, busi-

### Software sampler

Vendors continue to add business service management offerings to their product suites.

Company	Product	Price
<b>Aprisma</b>	Spectrum Business Service Intelligence Solution	\$85,000 (existing customers); \$150,000 (new customers)
<b>BMC</b>	Service Impact Manager 5.0	\$90,000
<b>Concord Communications</b>	Business Service Console	\$100,000
<b>Euclid</b>	BSM Platform	\$200,000
<b>Magnum Technologies</b>	Magnum Advantage	\$75,000

ness processes and customer departments, for example.

When services are modeled, many BSM products use agents installed on the devices along the application's path to monitor response times from servers, network devices, end-user clients and even the application. BMC offers agent and agentless monitoring depending on network configuration. The response times from each component are measured, collected and sent to a central repository installed on a dedicated server to see if real-time performance measures up to pre-defined rules.

Vendors also have added various user interfaces: some for technicians managing the network and some for executives that want to directly monitor critical applications. These business consoles promise to let non-IT staff know how an application is doing without requiring any knowledge of the technology, underlying infrastructure or software components that support the service.

Scott Bracken started working with Concord's BSM tool for that reason. About a year ago, the IT specialist at Goodrich's Chula Vista, Calif., IT production operations center used management tools from Concord, HP and Mercury Interactive to monitor the status of network components and applications. But none of those gave his higher-ups the chance to see for the performance of a critical online application for aircraft parts ordering.

"At first, no one in IT was taking this parts Web site as seriously as we should have been, but a grounded aircraft is a big money loser for airlines, and they want to buy parts quickly and easily," Bracken says. The Web site and application generate about \$100,000 in orders per hour for the aircraft parts manufacturer, and company executives would not tolerate any down-

time for this business service.

Bracken used his Concord software to set up a GUI for his manager and other line of business folks. It's not used just to check on how well IT is doing its job, he says. It also helps customer service and support staff better process orders.

"If [customer service] sees the site is down or even just responding slowly, they will contact critical customers and let them know to phone in their orders," Bracken says. "It prevents them from losing parts sales due to an application problem on our end."

One challenge is inherent in rolling out BSM products is knowing who wants what information and how they want it presented, Bracken says. He says network managers often first must meet with line-of-business managers to understand how they need applications to perform and how they want to be alerted to problems. The processes that business managers use also must be incorporated into a BSM product.

According to research firm Summit Strategies, service management initiatives in enterprise IT departments hit roadblocks culturally more so than technically. Many IT shops work independently of the business units they support, and communication between the two groups often doesn't yield enough information to map desired performance levels into monitoring software.

"Service management requires IT to reinvent the way it does business," Mary Johnston Turner, vice president and practice director at Summit Strategies, wrote in a recent report. "Getting the expected service management software [ROI] requires both IT and business to change their modus operandi." ■

### Short Takes

■ **Quest Software** last week released **MessageStats 5.0**, a reporting and analysis tool for Microsoft Exchange Server. It features a tool that categorizes e-mail traffic, storage and related costs broken down by business units and departments. The data provides detail on how e-mail is used throughout an organization and provides IT with the ability to charge e-mail costs back to departments. Version 5.0 also includes an executive summary report feature and auditing controls per subject lines, delivery times, mailboxes and SMTP domains to weed out messages that might violate corporate usage policies. Pricing for MessageStats 5.0 starts at \$7.50 per mailbox.

■ **IBM** last week agreed to buy 14-year-old Montreal software developer **Systemcorp** for an undisclosed sum. Systemcorp makes **PMOffice**, a project portfolio management suite of applications for tracking and prioritizing corporate projects. The suite includes modules for managing project costs and charges, reusable templates, time tracking, collaboration, resource planning and version tracking, among others. IBM plans to incorporate Systemcorp into its Rational software development group, and to integrate Systemcorp's technology into the IBM Software Development Platform, its portfolio of programming and design tools. Systemcorp, a long-time partner of IBM, currently has 70 employees, most of whom will be offered jobs at IBM, IBM said.



'NET  
INSIDERScott  
Bradner

The SANS Institute just released its 2004 list of the 20 most critical Internet security vulnerabilities. It includes 10 threats in Windows-based systems and 10 in Unix-based systems.

The title is a little bit misleading because SANS does not list specific vulnerabilities. Instead it lists programs or sub-systems that too often contain vulnerabilities.

The whole list comes across a little bit like telling someone to stop breathing in order to avoid getting cancer from air pollution — accurate but useless advice. I'll focus on the Windows part of the list ([www.sans.org/top20/](http://www.sans.org/top20/)) because many more people can relate to Windows vulnerabilities than Unix ones (including, I

suppose, Mac OSX).

The 10 "vulnerabilities" on the SANS list are: Web servers & services, workstation service, Windows remote access services, Microsoft SQL Server, Windows authentication, Web browsers, file-sharing applications, Windows Local Security Authority Subsystem Service exposures, Microsoft Outlook mail client and instant messaging.

You can't just turn all these things off and have much of a system left, so as the SANS commentary suggests, adopting aggressive patching strategies is the Windows user's only hope for survival.

Most of the problems the SANS Institute discusses with these Microsoft and non-Microsoft applications and Windows sub-systems can be summarized by saying that lots of examples of poor programming practice have been found and exploited in this software. I'd expect that some of the software listed will be replaced next year with other software where the same sort of problems have been uncovered.

## Core software as security vulnerabilities

With 40 million or more lines of secret source code in Windows XP, I find it hard to imagine that there aren't many thousands of bugs yet to be discovered ([www.nwfusion.com,DocFinder:4224](http://www.nwfusion.com,DocFinder:4224)).

I expect there are also many bugs in the 30 million or more lines of source code in Linux, but the public nature of the code means the problems may be found and fixed sooner.

Bugs in software are to be expected because programmers often are humans and perfection is an uncommon trait among humans. But some issues on the SANS list are not bugs — they are features. The best example is the Outlook mail client, of which the SANS commentary politely says "the embedded automation features are at odds with the built-in security controls (often disregarded by end users)." In a bit of understatement, SANS mentions that "this has given rise to e-mail viruses, worms, malicious code to compromise the local system, and many other

forms of attack." This kind of thing is far harder to fix.

If all this makes you want to get an abacus (or a Mac), you're not alone.

But sad to say, neither solution is acceptable in much of today's workplace, even though at least the Mac would do the job most of the time. (It's hard to do word processing on an abacus though.)

That leads back to the advice mentioned earlier about breathing — which was about the only statistically valid result of the cancer and air pollution research I participated in as a lab technician in my first job out of Boston University.

Disclaimer: Some things that Harvard's neighbors see as bugs Harvard sees as features (students on a Saturday night for example). But I did not ask the neighbors or Harvard about the above lament.

*Bradner is a consultant with Harvard University's University Information Systems. He can be reached at [sob@sob.com](mailto:sob@sob.com).*

# SANS Institute names Top 20 vulnerabilities

■ BY JOHN FONTANA

The Unix kernel and databases that run on that operating system, along with security sub-systems and instant messaging that run on Windows, are the newest additions to the SANS Institute's annual list of Top 20 vulnerabilities most exploited by hackers.

The list, released last week, highlights the most common holes exploited in software and is used by the SANS Institute to encourage corporations to make the vulnerabilities a priority as they develop patch-management strategies.

"This is the minimal list that organizations need to get their arms around to protect critical IT infrastructure," says Gerhard Eschelbeck, a member of the committee that developed the list and the CTO at Qualys, a supplier of on-demand vulnerability management. Qualys last week also made available at no cost a Web-based service that will scan infrastructure servers for the Top 20 vulnerabilities.

The federally supported Common Vulnerabilities and Exposures project has catalogued 10,000 vulnerabilities. The SANS Institute says that number includes 3,300 known remotely exploitable vulnerabilities and that 200 of them are linked to the Top 20 identified by SANS (see graphic, right).

"If a company searches for all vulnerabilities, they'll find thousands and thousands," says Alan Paller, director of research at the SANS Institute. "If you give a report with 10,000 or 20,000 vulnerabilities to the systems staff, they don't know where to start, and they know they'll never get them all done."

The Top 20 list, which does not rank the

vulnerabilities, is actually two lists divided into the Unix and Windows platforms. The vulnerabilities are not necessarily within those operating systems or their variants, but can reside in software that runs on those platforms.

For example, the Windows list calls out Web servers and services, including Microsoft's Internet Information Server, Apache and Sun Java System Web Server.

Eschelbeck says research into the Top 20 does not support arguments that Windows is any more or any less secure than Linux or any other operating system.

"Clearly what is happening now [on any platform] is dealing with the sins of the past, which have been a lack of quality and security in the software development process," he says.

Eschelbeck, who did extensive research for the list, including evaluating data gleaned from scans of six million computers, says that every 21 days half of all Internet-facing servers, such as mail or Web servers, are patched to address Top 20 vulnerabilities. For example, if 10,000 machines have a vulnerability, roughly 5,000 will be patched after 21 days. In the next 21 days, another 2,500 will be patched.

"That is pretty good actually, but in contrast, it takes 62 days to patch vulnerabilities on half the vulnerable computers inside a company," says Eschelbeck. He says he hopes that is cut to 40 days within the year. ■

## Top vulnerabilities

Here is a look at a few of the most common software vulnerabilities, which are not ranked in any specific order. The full list and complete explanations are available at [www.sans.org](http://www.sans.org).


Unix and Unix-based variants	Details
<b>BIND DNS</b>	Due to the ubiquity and critical nature of BIND, it has been made the target of frequent attacks such as denial-of-service buffer overflows and cache poisoning.
<b>Version control systems</b>	Vulnerabilities seen in Concurrent Versions System configured for remote access.
<b>Open SSL</b>	Multiple vulnerabilities exist in the OpenSSL library.
<b>Databases</b>	Databases are extremely complex applications and are, often times, difficult to correctly configure and secure.
<b>Kernel</b>	Risks from kernel vulnerabilities include Denial of service, execution of arbitrary code with system privileges, unrestricted access to the file system, or root level access.
Windows	Details
<b>Web servers and services</b>	Default installations of various HTTP servers and additional components for serving HTTP requests
<b>Web browsers</b>	Vulnerabilities applicable to Internet Explorer, Mozilla, Firefox, Netscape and Opera.
<b>LSAS exposures</b>	Windows Local Security Authority Subsystem Service contains critical buffer overflow that if exploited can lead to full system compromise.
<b>Mail client</b>	Outlook and Outlook Express can successfully protect users against viruses, worms, malicious code, if appropriately configured.
<b>Instant messaging</b>	Remotely exploitable vulnerabilities in these programs are a growing threat to the integrity and security of networks.



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# Special Focus

## CORPORATE SOFTWARE: The open source trend.

# Open source products grab corporate attention

■ BY JENNIFER MEARS

When the Internet travel market began to kick into high gear in 2002, National Leisure Group, which sells vacation packages through sites such as Orbitz and Priceline.com, knew it had to step its services up a notch. It embarked on a project to create an online system that could put together custom vacations for prospective customers in minutes.

That meant writing a new application and extending its application server platform.

"When we did that we had a bunch of choices to make. We had already been using J2EE as our application development environment for other applications in the business, but we had been a traditional consumer of commercial application servers," says Jamie Cash, director of technical architecture for NLG in Woburn, Mass.

Cash and his team looked at the costs involved in expanding their server farm to support a broader BEA WebLogic deployment and realized the costs would be a definite hurdle.

"So we began to seek alternatives," he says. "The alternative we landed on was [open source application server] JBoss."

NLG had the JBoss platform running by April 2003. In the first year alone, the savings associated with using the open source application server as opposed to the commercial BEA software amounted to \$1 million in avoided licensing fees, Cash says.

"And we were able to scale much faster in terms of technical perspective and in terms of the business," he says.

### Alternatives beyond Linux

NLG is not alone in looking at open source alternatives beyond Linux. Analysts say that in the move to cut costs and drive efficiencies, enterprise users are starting to get more serious about open source products such as JBoss; and databases such as MySQL and PostgreSQL, the Apache Web server, the Samba file and print server, and OpenOffice desktop software.

"The trend is that organizations are trying to find cost reduction strategies that allow them to continue to do what they're doing but do it at a lower cost structure," says Dan Kusnetzky, vice president of systems software at IDC. "They are considering open source software where it's appropriate. JBoss, MySQL, PostgreSQL are on the list of things that people are looking for."

A Forrester Research survey of 140 North American firms earlier this year found that 46% of respondents are using open source software today, and 14% have plans to bring open source into their data centers in the future. Thirty-nine percent of the companies said they had no plans for open source software, citing lack of skills and lack of support as primary inhibitors.

"[Open source software] has been a very active area of inquiry for about a year," says John Rymer, a vice president at Forrester who focuses on J2EE application servers such as JBoss. "In other words, clients are calling me up and asking me, 'Should we be using it? Is anybody using it? We love the price. We'd love to make greater use of it. What are the risks?' Those kinds of questions."

The uptick in interest is driven in large part by the grow-

### Ups and downs of open source

**Corporate users, pleased with the capabilities of Linux, are taking a closer look at open source software such as databases and application servers. Some things to consider when moving up the open source stack:**

#### Pros:

- **Cost.** As far as software acquisition costs go, open source products are free.
- **Flexibility.** Just like Linux, open source software frees companies from vendor lock-in.
- **Close to the code.** With open source, enterprise users can pinpoint problems in specific code and suggest patches to solve problems.
- **Growing support.** Vendors such as HP, Red Hat and Novell are enhancing support for open source products beyond Linux.

#### Cons:

- **Cost.** While acquisition costs are free, corporate users must pay for support and services, and there are often costs associated with training IT staff.
- **Integration.** Today, users are on their own when it comes to integrating open source products into legacy infrastructure, although this is starting to change with companies as varied as Gluecode and HP rolling out support for open source stacks.
- **Capabilities.** Today's open source databases and application servers are technically very good, but still not up to par with heavy-duty commercial offerings such as DB2 or WebLogic.
- **Intellectual property.** The SCO Group's legal assault against Linux should serve as a warning shot for any company considering open source. Understand the open source license governing the product and what your rights and responsibilities are.

ing acceptance of Linux within corporate data centers, analysts say. In many cases, companies have become familiar with Linux, making them more amenable to moving up the stack within the open source community.

"Companies have gotten comfortable with Linux, and they're scratching their heads and saying, 'The argument for Linux was total cost of ownership and skills, and our developers like it and applications are supporting it,'" says Pierre Fricke, an analyst at D.H. Brown Associates. "Then they start thinking, 'What about this thing called JBoss. Doesn't it offer some of the same things?' And it does."

### Eyes wide open

Those that are bringing open source software into their data centers need to do so with their eyes open, analysts say. While the software itself may be free, there are costs

associated with service and support, efforts to bring internal IT staff up to speed on the new technology and integration challenges with existing infrastructure. The bottom line is open source software should be evaluated in the same way as any commercial offering.

"So you find a good piece of code that was produced by a project team and it's available for free. You have to ask: Will that project team continue to invest in the project? Is there any funding mechanism to ensure that they'll be able to continue to invest effort? Do they have a road map? Are they going in a direction you need them to go," Rymer says. "If you were to buy software from a commercial start-up vendor, you'd be asking these questions. You really need to ask them for open source, too."

Analysts note that intellectual property issues could be a concern. Linux users are well aware of The SCO Group's legal claims that Linux illegally contains its copyrighted Unix code. Forrester recommends that corporate customers set up an open source advisory committee made up of lawyers, developers and procurement specialists.

Despite the SCO flap, Linux continues to gain acceptance. It has matured into a mainstream operating system with support from all the major systems vendors and an independent software vendor community that's expanding. While lack of Tier 1 support had been a major hurdle for Linux, Sun, HP, IBM and Dell all now support the operating system.

Open source software is following a similar path. In June, for example, HP announced that it was partnering with The JBoss Group and MySQL to provide technical support for the two open source projects on its ProLiant and Integrity servers.

### Big vendor backing

The fact is, customers are looking for flexibility and the ability to move from vendor to vendor, says Efrain Rovira, worldwide director of marketing for HP's Linux organization. Linux and open source software both provide that. Rovira says enterprise users can expect HP to deepen its support for JBoss and MySQL and extend its open source offerings, in an effort to respond to customer demands.

Others, such as Novell, are making efforts to ease the process of bringing open source middleware into corporate data centers. In August, Novell announced it was bundling JBoss into its SuSE Linux Enterprise Server 9. Red Hat also unveiled its Red Hat Application server.

At LinuxWorld in August, IBM announced it was contributing its Cloudscape embedded database software to the open source Apache Software Foundation. Computer Associates also announced that it was putting its Ingress database into the open source realm.

Rod Smith, vice president of emerging technologies at IBM, says enterprise users can expect to see IBM step up its support of open source software. But he notes that there will remain a place for more heavy-duty, proprietary offerings, such as IBM's WebSphere application server and DB2 database.

"There is no one size fits all. MySQL does some things very nicely. In other areas, such as transactional models for high-performance applications, it's probably not as good," he says. "There will be plenty of room for proprietary and open source systems for quite a while." ■





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# NetworkWorld Perspectives

October 18, 2004

Insights on key issues facing network IT

## VoIP REALITIES

*As VoIP becomes an increasingly mainstream technology, users provide a reality check in terms of VoIP costs, features and problems.*

■ By Joanne Cummings

### When VoIP burst onto the scene, it

seemed like the answer to every network executive's prayers. Not only would it eliminate the pain associated with moves, adds and changes, but it also would provide great new features such as unified messaging and lead to savings by using the current data network.

Today, current VoIP users say the technology is ready for prime time and providing returns, but it isn't exactly network nirvana. VoIP can deliver cost and support savings, but there are trade-offs in terms of quality, reliability and ease of management. Nonetheless, if it's implemented with an eye toward mitigating those trade-offs, VoIP can deliver great benefits.

For the most part, early users moved to VoIP to cut costs and clean up older telecom infrastructures.

"We had a nice little mess that we affectionately referred to as our telecommunications quagmire," says Bill Ashton, director of IT for the town of Herndon, Va. The town had seven locations that each had a key system or PBX, but the switches were from multiple vendors, so transferring calls and supporting voice mail was difficult and support was costly. Plus, the main location with the town offices had outgrown its PBX, forcing IT to rely on a variety of stopgap measures.

"In some cases, we had to issue

cell phones to new employees," Ashton says.

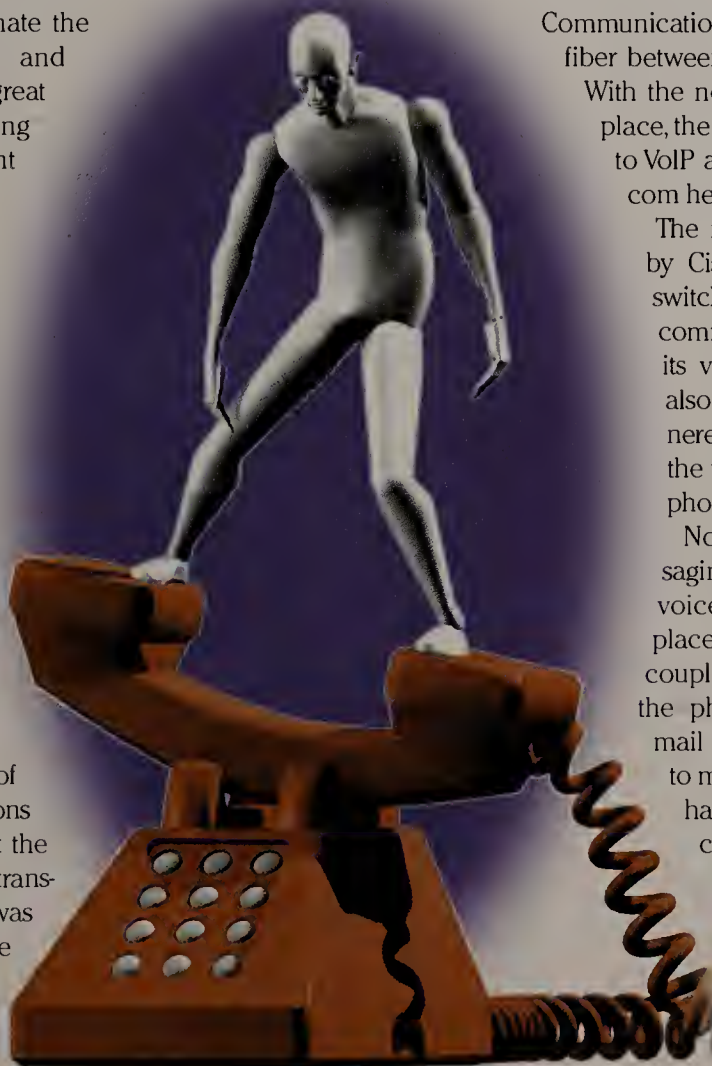
Fortunately, the town recently had put together a cable television franchise agreement with Cox Communications that required Cox to lay fiber between all the town's sites at cost.

With the new network infrastructure in place, the town realized it could move to VoIP and solve the bulk of its telecom headaches.

The new VoIP solution, anchored by Cisco 3550 and 2950 Catalyst switches, not only lets the town communicate seamlessly among its various locations, but Ashton also estimates the town has garnered 30% net savings through the use of unified messaging and phone line consolidation.

Now everyone has unified messaging, which lets them receive voice mail and e-mail in one place. "I was sitting at the beach a couple of weeks ago, and I got on the phone, called into my voice mail box and had my e-mail read to me," Ashton says. Plus, the town has consolidated its outbound calling over PRI lines, which lets it eliminate more than 300 individual phone lines.

Others echo Herndon's experience. *The Bakersfield Californian* newspaper moved to Cisco-based VoIP because it



ILLUSTRATIONS BY GIACOMO MARCHESI



wanted to upgrade its network to support digital production applications. At the same time, it needed to replace aging PBXs that dated from the 1970s.

"We have two locations, one with a super PBX and one with a mini PBX," says Mark Simons, systems manager at the paper. "The cost of buying two new PBXs was almost equal to the cost for the entire network project and [VoIP] stuff." Plus, with the move to VoIP, Simons says the company no longer needed the one staff member dedicated to voice and supporting the PBXs.

"For our ROI, we gave the VoIP setup a 10-year lifetime," Simons says. "And by eliminating that one position, we paid for the entire system over the 10 years. So now, any new savings we get from new applications or whatever is all bonus money on top."

One bonus came when the paper had to temporarily relocate its newsroom staff while its offices were being refurbished. "We chose a location to move into, and we hooked up two T-1 lines from the main office to the new location," Simons says. "Then all they had to do was take their phone from here, take it out there and plug it in. They had the same phone number, features and everything as if they were sitting in this building."

"We figured the savings we're going to get from moving out there and back is probably \$30,000 to \$40,000 alone," he says.

### More than cost savings

While VoIP can be a great cost saver, the icing on the cake is the new features it enables. Herndon implemented an Amber Alert system using VoIP that effectively brings every town employee into the loop when a child is missing in the area. The application works with the Cisco switch to push out alerts to the VoIP phones.

"I have five to six times the amount of [town employees] on the streets on a given day than I do police officers," Ashton says. "And now I can arm them with information that might help a child in jeopardy, and I can do this at little to no cost."

Others are even more ambitious. Worcester Polytechnic Institute (WPI), a technical university in Massachusetts, is beta-testing Nortel's Succession 4.0 VoIP software running on a Multimedia Communications Server 5100. It's looking to VoIP to support student-teacher collaboration while students are completing course-

related projects around the world in sites such as Namibia, Thailand and London.

"Now we send the students out to the various project centers with laptops and cell phones tuned up with SIM cards for the country they're going to," says Tom Lynch, vice president for IT and CIO at the school. "But we're looking for better connectivity at the project centers, and this is a way. If we could load VoIP softphones onto the laptops they could have much better connectivity back to campus."

The setup would also provide video-based collaboration for the students and their professors back in Worcester. "The professors are very interested in this because it would let them keep in contact when they send students out to the centers," says Sean O'Connor, director of network operations and security. "They could speak face to face, instead of being on e-mail and typing back and forth. It's more efficient."

### The quality caveat

The one catch for WPI is the quality of voice over the Internet, especially in these remote locations. VoIP, unlike traditional data applications, requires consistent QoS. "We have a very high-quality network on campus," says Al Johannesen, director of internetworking and telecommunications at the school. "But where these people are going we're piggybacking on networks in the area, so it needs to be determined how well it will work."

The tests so far have been encouraging. O'Connor has used a softphone on his laptop from his home a few miles from campus via a VPN connection and the quality has been fine. And he has used a similar setup to speak with Nortel representatives in Quebec. "I thought

there would be delay, but there's not," he says. "It works great."

Still, WPI has seen first-hand the effects of a sub-optimal VoIP network. The school needed to support an affiliated high school, the Massachusetts Academy of Mathematics and Science, when the school moved off-campus and decided to use the VoIP beta. While they waited for fiber to be run between the campus and the new site, the school used VoIP over a point-to-point microwave link and received complaints about the phone service. Basically, the microwave link wasn't reliable enough to support the VoIP traffic.

"This is New England, and weather is weather," O'Connor says. "And when you're using microwave and you have a white-out in a snowstorm, you usually end up having some sort of issue. Data worked fine over it, but the phone had problems."

Still, VoIP made the whole move easier and less expensive than would have been possible with a traditional system. The school had to bring its Internet access to the new site anyway, and it simply installed a Nortel 9150 IP extension shelf to the campus network as part of the process, O'Connor says. "We didn't have to pay for 20 or 40 phone lines into the new building."

Another problem with VoIP is that few operations have engineered their data networks to provide the power necessary to keep VoIP phones running when the power goes out. WPI has set up its network to ensure between one and two hours of battery backup throughout. "But if there's an emergency and the power goes out, people tend to pick up the phone and ask for help," O'Connor says. "But how can you say they won't have a

### Webcast:

## VoIP: From hype to reality



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phone in two hours?"

Others are less worried. Michael Lira, director of MIS at Capitol Technologies, a machine tool builder in South Bend, Ind., has used AT&T's Managed IP Telephony Services for VoIP for three years. The setup has been hit by occasional minor power outages, but Lira says he's comfortable with the risk.

"We engineer parts to order, so we take on jobs that are generally longer term," he says. "A day down is not going to totally kill us."

In fact, the company lost power for three days after a recent tornado and phone service was affected. The company ran on battery backup for as long as it could and then simply waited for power to be restored. "That was the longest outage," Lira says. "Other than that, I can't recall it being more than a minute of downtime."

Most users say they keep some analog lines available or rely on cell phones for backup, all of which means that virtually no organization will move to a 100% VoIP network, observers say.

### Analog never goes away

WPI has decided that after the beta is over, it will implement a hybrid system that keeps some traditional analog lines in place, just in case of such an emergency.

"We'll never roll out VoIP for emergency phones," O'Connor says. "With IP phones, there are things like power that can go wrong. Our labs will always remain on analog lines, and our emergency phones outside for the campus police will always be analog."

O'Connor also says some analog lines are mandated by law. "You have to bring a separate analog line in to link up with the fire department in each residence hall, and that's a law in Massachusetts," he says. "People at first might think they can get rid of their analog lines, but the IP phone won't suffice. You will still need analog lines at some level."

Others find they require analog for fax and other applications because digital-to-analog converters are not up to snuff.

"We had to give things like fire alarms, modems and faxes their own phone lines, so we ended up keeping 24 analog lines after we moved to VoIP," Simons says. "We bought a digital-to-analog converter with the Cisco system, which should have let us get analog lines out of the Cisco switch, but we found it doesn't

## A VoIP reality check

Long-time VoIP users weigh the benefits and problems



### Pros

- Inexpensive to implement, run and maintain vs. traditional phone networks.
- Supports key productivity applications such as Caller ID and unified messaging.
- Handles new applications, such as Internet collaboration and CRM and makes it easier to support speciality applications such as Amber alerts.

### Cons

- Requires good quality of service configuration and strong network architectures.
- Presents power backup quandaries.
- Analog lines are still required in many cases for faxes, as well as legal and emergency reasons.
- Voice communications is only as secure as your overall network.

work that great. I think over time Cisco will make its digital-to-analog conversion stuff work better, where it's not quite as troublesome to manage. But until then we're keeping our analog lines."

### Security not a worry

Another broad industry concern with VoIP is security, although most users say it isn't a big concern. The consensus is that as long as you follow established network security practices, install strong firewalls and split the voice traffic into separate virtual LANs (VLAN), your VoIP systems will be safe.

"I don't see security as a problem," Simons says. "Our [Cisco] CallManagers are all password-protected, so nobody can just log in and start making changes to phones. We have a good firewall in place, and our network is split into a bunch of VLANs, with the voice on its own VLAN. I don't worry about it."

WPI also uses a separate VLAN to protect its VoIP traffic and says the setup worked well when a virus hit the school's network recently.

"We contained the virus pretty fast, but it didn't affect the phones at all because there's a certain amount of bandwidth partitioned off just for that phone system, and nothing else is going to go over it," O'Connor says. "It's not a separate physical wire plant, but it's separate at the logical level and it works."

Overall, VoIP users say they are happy with the technology and find it is a cost-effective, feature-rich alternative to traditional phone systems. And it's no longer a "bleeding edge" technology that people need to wait out.

"It's like when a new version of Windows comes out; everybody waits for the first service pack before they actually go in and install it," Simons says. "It's been like that for [VoIP], but people shouldn't wait anymore. It's stable now, and it's only going to get better."

Ashton of Herndon, Va., agrees. "My organization is not that large, and I don't have the luxury of getting out on the leading edge," he says. "I can't make \$600,000 mistakes. But VoIP is beyond the leading edge, and it's starting to mainstream. We're on the front end of the mainstream, but that's where I like my organization to be."

*Cummings is a freelance writer in North Andover, Mass. She can be reached at [jocummings@comcast.net](mailto:jocummings@comcast.net).*



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# Service Providers

■ THE INTERNET ■ EXTRANETS ■ INTEREXCHANGES AND LOCAL CARRIERS  
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## Equant expands VPN access services

■ BY DENISE PAPPALARDO

Equant is offering customers new choices when it comes to accessing their VPN from around the world whether they are tethered or not.

The company recently announced its Adaptive VPN strategy promoting the carrier's ability to support a variety of hybrid VPN networks that couple legacy and new network technologies such as frame relay and Multi-protocol Label Switching

(MPLS) services.

Equant is readying a service it calls Frame Relay VPN Bridge that speaks directly to its Adaptive VPN plan. The service will allow frame customers to dedicate a permanent virtual circuit (PVC) to Equant's MPLS network. This PVC will let frame relay and IP VPN MPLS sites communicate and exchange traffic as if they were on the same network, says Christophe Masiero, head of VPN services at Equant.

While its Adaptive VPN strategy is primarily a concept, or marketing plan, the carrier is expanding the geographic reach of a variety of access technologies that will make it easier for users to access their VPNs globally.

Equant is expanding the reach of its optical Ethernet service, DSL, Wi-Fi and mobile wireless access to its VPN offerings throughout the 150 countries where the company offers data services, Masiero says.

The carrier plans to roll out next-generation optical Ethernet services by year-end, he adds. Until now Equant has offered

packet over SONET services allowing users to connect to its backbone using Ethernet.

The company says it also is adding Wi-Fi hot spots to its network of access points, but Masiero did not say exactly how many would be added. The company has roaming agreements with a variety of Wi-Fi service providers, including Airpath, Pronto Networks and Wayport.

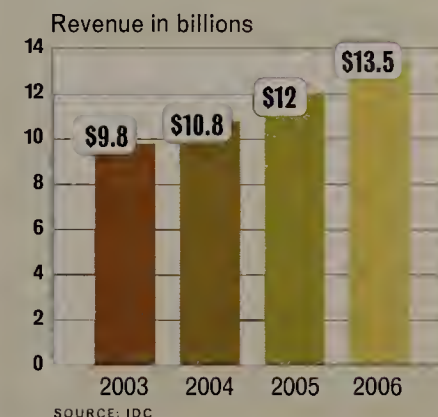
Equant offers VPN access from 6,507 Wi-Fi hot spots and 677 wired Ethernet locations covering 35 countries.

The carrier is offering General Packet Radio Service access to its VPN services in eight countries outside the U.S. through its relationship with international wireless service provider Orange. Orange and Equant are subsidiaries of France Telecom.

Masiero says Equant will offer mobile wireless VPN access to customers in the U.S. by year-end, but would not say which domestic carrier Equant is teaming with to support the mobile service.

Mobile wireless access will offer business users another option to access their VPNs from anywhere the service is available. He

### IP VPN usage growing Flexible service offerings seen as key driver.



also says the carrier is in the process of developing 3G wireless service access to its VPN offerings.

The service provider also is planning to expand the reach of its DSL services to 50 countries, offering users three levels of service. ■

## Short Takes

### ■ Level 3 Communications

announced last week that it has signed a five-year, \$337 million deal to provide Northrop Grumman with **IP VPN services**. This deal stems from a contract that Northrop Grumman signed with the U.S. Department of Homeland Security earlier this year. In that deal DHS required Northrop Grumman to team with a network service provider that could support secure data networking. Based on its contract with Level 3, Northrop Grumman will be using the carrier's (3)Flex Network IP VPN Multi-protocol Label Switching service. The fully meshed offering lets users establish end-to-end customer-controlled traffic prioritization. Northrop Grumman and DHS will be using the service to transmit classified data among headquarters, agencies and field offices.

■ **Qwest** last week announced a network-hosted call center designed to reduce IT staffing and equipment maintenance costs by up to 50%. Called **Q Routing**, the virtual call center manages inbound, outbound, e-mail and Web-based transactions. It works with Centrex, PBX, analog, ISDN, plain old telephone service, cellular, VoIP and PC desktop phones. Q Routing enables call center agents to work in remote and multiple locations. Q Routing also offers disaster-recovery services, as well as interactive voice response service through Qwest Web Contact Center.

## Sprint gussying up security offerings

■ BY DENISE PAPPALARDO

Sprint last week launched two security services that it says will help customers mitigate distributed denial-of-service attacks and better enforce security policies.

The offerings include Sprint's IP Defender and Secure Content Management and Filtering services. They are designed to keep customer networks safer by using tools that proactively thwart distributed DoS attacks and dedicate a network appliance designed to enforce a customer's security policy, respectively, the company says.

Sprint's IP Defender service is the latest anti-distributed-DoS offering from a carrier that proactively detects attacks and then puts mitigation efforts into effect. Sprint has deployed Arbor Networks' PeakFlow, which detects network-behavior anomalies, in its network and Cisco Mitigation devices at customer sites.

"The Arbor piece provides the 24/7 monitoring and the Cisco element lets us divert and mitigate traffic to a black hole or another port," says John Pardun, security solutions manager at Sprint.

PeakFlow monitors networks and detects if there has been a drastic change in traffic heading toward a specific customer, which is a telltale sign of an attack. Sprint then uses the Cisco devices to immediately make changes to a customer's network to try and stop the attack. The guidelines as to when and how Sprint reacts are outlined with the customer when Sprint sets up the service.

One industry watcher says the Sprint move makes sense.

"This announcement is most important to Sprint customers," says Kelly Kavanagh, senior analyst at Gartner. The service is attractive to customers that want to increase network uptime and avoid DoS attacks as much as possible, he says.

Late last year the carrier said it would beef up its anti-distributed-DoS efforts with monitoring and mitigation services. Sprint has a network-based system that uses stateful inspection in its edge routers to examine traffic for all IP customers. But its IP Defender is an add-on service for which the carrier charges an additional fee.

Sprint is not alone in offering proactive services or charging for them. AT&T first

announced its Internet Protect distributed-DOS monitoring and mitigation service in March and then added a proactive mitigation feature in June.

MCI also offers distributed DoS monitoring and mitigation service, but MCI has yet to provide a proactive mitigation feature.

As part of its DoS response service-level agreement (SLA), the carrier guarantees it will respond to DoS attacks directed at any of its IP customers within 15 minutes of when a user calls MCI and the carrier issues a trouble ticket.

Sprint also is offering a standard SLA with its IP Defender service that covers notification and mitigation. The carrier guarantees it will notify a customer within 15 minutes of a possible DoS attack.

Customers can set up a policy that allows Sprint to initiate mitigation immediately, but for those that want to first grant approval, the carrier guarantees it will initiate mitigation within 15 minutes of that approval.

Sprint's IP Defender service is available in two versions: one monitors multiple customer networks using one PeakFlow

See Sprint, page 30



## EYE ON THE CARRIERS

Johna Till Johnson



I've written extensively about the fact that the U.S. is losing competitiveness in science and technology because of a lack of focused public investment in cutting-edge research. Universities and graduate institutes have noted the impact for years. Now elementary schools, secondary schools and public libraries are feeling the pain.

You'll recall that in 1997, as a corollary to the Telecommunications Act of 1996, the FCC implemented a revised universal service provision (USP) that essentially subsidizes Internet-related services to elementary and secondary schools and public libraries. The USP order created a new

## Why Johnny can't surf: The feds blew it

quasi-governmental agency called the Universal Service Administrative Company (USAC), which collects money from infrastructure-based telcos (roughly 9% of telecom revenue) and distributes it to schools and libraries. USAC has disseminated more than \$11 billion in so-called "e-rate" funds since 1997.

Then and now, I think the structure was dumb. I fully support providing low-cost Internet access to schools and libraries. But this structure imposes a hidden tax, and a biased one at that (it's another example of the tilted playing field against infrastructure-based telcos that I mentioned in my last column).

More to the point, it creates an enormous bureaucratic mess: Instead of paying the schools directly, we're paying telcos to pay the government to pay the schools — and the collection and distribution is handled by a shadowy agency with no clear oversight. It's no surprise

that over the past six years numerous questions have been raised about the management and administration of this \$11 billion. Handling USP in this fashion is shortsighted and stupid.

It seems the federal government finally agrees. But in typical bureaucratic fashion, the cure is worse than the disease.

On Aug. 16, the FCC notified the USAC that it was drastically tightening up accountability standards for e-rate funding. In particular, the FCC required the USAC to have the money in hand before promising it to schools — a 180-degree reversal of the way the USAC had been operating for the past six years, during which the USAC would promise funding based on estimated future contributions by telcos.

The USAC responded Aug. 19 by informing thousands of schools and libraries that it could no longer promise funding for fiscal year 2004, which started in July.

The upshot is that schools and libraries

are now drastically reducing services because they're unexpectedly not getting the funding they were promised. The USAC blames the FCC. The FCC blames the USAC. Congress blames everybody. In the middle of all this finger-pointing, Johnny and Janie Schoolchildren are left staring at screens that have suddenly gone dark.

This is nuts. Of course the e-rate program needs a thorough overhaul. By all accounts it's a mess, and as noted, it was never such a hot idea in the first place. But abruptly shutting off funds at the start of the school year is even worse. If this kind of federal flailing and flip-flopping is how we're planning to handle our investments in science and technology, we have a problem.

*Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.*

## Edge routers enhanced to support new services

■ BY JIM DUFFY

Two router vendors last week announced enhancements to their edge offerings that they say will address new markets and improve broadband service delivery.

Juniper Networks unveiled hardware and software for its E-series routers that the company says lets service providers deploy more sophisticated broadband services with increased levels of performance, reliability and scale. Laurel Networks rolled

out line cards for its low-end ST50 platform designed to optimize delivery of VoIP and IP VPN services over DSL and T-1/E-1 circuits.

Juniper's enhancements are targeted at service providers looking to offer triple-play — integrated voice, data and video — services over broadband IP infrastructures. The E-series extensions include support for stateful Switch Route Processor switch-over in the router's Junos operating system. This is designed to ensure high availability of Point-to-Point Protocol (PPP) and Dynamic Host Configuration Protocol (DHCP) applications, and maintain all subscriber sessions and services during failure.

Another extension is interoperability with Siemens' dual stack IPv4/IPv6 broadband client software for Windows. This helps service providers begin deploying IPv6-based video-on-demand, IP television, videoconferencing, voice and video telephony services. Siemens is a Juniper reseller.

Another software enhancement is the ability to monitor DHCP traffic between external DHCP servers and client subscribers.

On the hardware side, Juniper unveiled a Gigabit Ethernet "combo card" for the E-series. This card integrates physical Gigabit Ethernet termination and tunnel server features in a single line-card slot. It also doubles Gigabit Ethernet port density to two ports, while lowering the perport cost of the ERX-1440 and ERX-310 platforms, Juniper says. The cards cost about \$48,000 each.

Another hardware enhancement for the E-series is an eight-port FX Fast Ethernet Input Output Adapter (IOA). This addition supports fiber-based 100M bit/sec Ethernet services for the ERX platform.

Both the FX IOA and the combo card use a range of small form-factor pluggable

transceivers to support different optical modes and cabling distances.

Hardware was the sole component of Laurel's ST50 router enhancements as the vendor unveiled three so-called "miniPHY" physical interface access cards for the router. An eight-port channelized T-1/E-1 card provides NxDS-0, T-1/E-1 and NxT-1/E-1 interfaces with frame relay and PPP encapsulations, and integrated support for low-jitter, low-latency VoIP transport.

A four-port, clear-channel DS-3 card supports direct termination of ATM-based DSL access multiplexers (DSLAM) for delivery of commercial and residential VoIP, video,

IP VPN and Internet services over DSL. And an eight-port 10/100M bit/sec TX Ethernet card supports metropolitan Ethernet services such as virtual private LAN service and IP DSLAM termination with QoS for VoIP, video, IP VPNs and Internet services.

The cards are expected to be available in January. Laurel did not disclose pricing.

Juniper's combo and FX IOA cards cost \$48,000 apiece. The software enhancements are included in the price of an E-series router, which is dependent on configuration but typically runs between \$100,000 and \$150,000, according to Juniper. ■

### Seeking an edge

Enhancements to Juniper's E-Series routers:

- Support for stateful Switch Route Processor switch-over.
- A Gigabit Ethernet combo card that integrates tunnel server functionality with a higher-density, two-port line card.
- Interoperability with the Siemens dual stack IPv4/IPv6 PPPoE tango Access broadband client software for Windows.
- Ability to monitor DHCP traffic between external DHCP servers and client subscribers.
- An eight-port FX Fast Ethernet Input Output Adapter supports fiber-based 100M bit/sec Ethernet services.



### Sprint

continued from page 29

device, and another that lets customers dedicate PeakFlow devices to monitor only their networks. The carrier says its standard offering is priced based on port size, meaning all T-1 customers would pay the same fee. The carrier would not reveal prices.

Sprint launched its Secure Content Management and Filtering service last week.

It is deploying and managing Network Appliance's NetCache device at customer

sites to support this service. "We're using a platform that provides filtering and also uses Web caching and bandwidth optimization," Pardun says.

With this device users can set and enforce security policies such as access controls, authentication, Web filtering and blocking potentially malicious code while using Web caching for better bandwidth optimization.

Sprint is offering its Secure Content Management and Filtering service to Sprint IP customers and others using dedicated IP services from another carrier. ■

### Security concerns

According to the 2004 E-Crime Watch survey of 500 respondents:

- **43%** report an increase in electronic crimes and 'Net intrusions over 2003.
- **51%** have a formal process in place to track e-crime attempts.
- **30%** do not know if the attacks are coming from inside or outside their organizations.
- Of those that do know, **71%** see attacks coming from outside and **29%** from inside.
- **40%** say hackers pose the greatest cybersecurity threat.

SOURCE: SURVEY CONDUCTED BY CSO MAGAZINE, THE U.S. SECRET SERVICE AND THE CERT COORDINATION CENTER.



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# Technology update

■ AN INSIDE LOOK AT THE TECHNOLOGIES AND STANDARDS SHAPING YOUR NETWORK

## Patch management goes automatic

■ BY CHRIS ANDREW

Staying current with vendor security alerts, assessing the risk that these vulnerabilities pose to your business and testing and applying software patches to close these holes are onerous tasks that can consume most of an IT professional's workday.

An automated patch-management system provides more effective security by tracking machines that need patches and applying required patches and updates throughout a corporation.

Automated patch-management software offers a solution for aggregating, and distributing and installing patches and software updates for multiple computing platforms. The core functions of the system are an accurate patch management detection and inventory process, and automatic patch deployment across platforms.

In distributed corporate environments, a detailed inventory of system components is essential, especially the software that runs those systems. Third-party patch management systems conduct this inventory one of two ways: either with or without agent software.

Agents allow for deeper host inspection, enforcement and the ability to perform arbitrary tasks on targets. Advanced client-

side agents allow for communication with a host server. A primary reason and underlying benefit of agent technology is increased performance and scalability. They accelerate the performance of a large-scale deployment, and one enhanced server can service tens of thousands of Web-based client agents. By using agents, a patch management system can work across firewalls and operate on any computer that has a TCP/IP connection to an enterprise network.

At the other end of the spectrum is the agentless option — technology that requires manually downloading patches to a host server and then pushing them out to target servers and/or desktops via remote process control. In the past, those wanting a lighter software thumbprint and rapid patch management deployment preferred this methodology. However, significant strides in reducing the agent size and improvements in agent-based management and agility have addressed this concern.

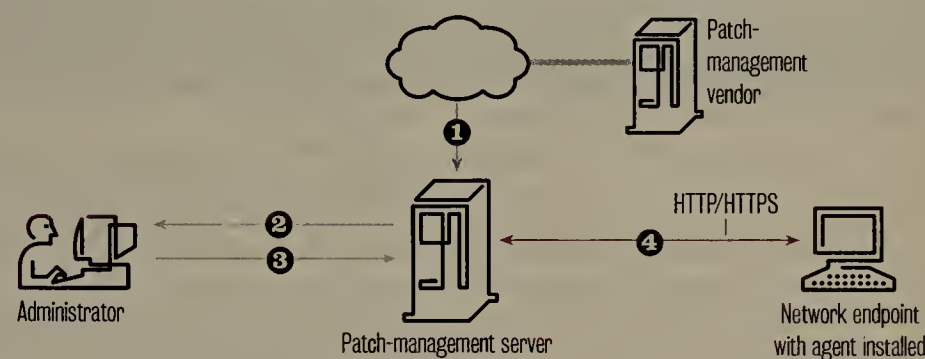
Effective patch management solutions let a central administrator or group of administrators automate the discovery of software vulnerabilities and subsequent distribution of security patches throughout a heterogeneous enterprise network. Both agent and agentless systems search for and identify vulnerabilities. The inspection process can range from registry evaluations to more accurate inventories of Dynamic Link Libraries and other system files.

Once a vulnerability has been identified, a patch management system lets administrators select the corresponding patch from a list of known patches (or pull it directly from the vendor if the product doesn't perform local patch caching) and propagate

### ■ HOW IT WORKS

#### Automated patch management

This automated patch-management system uses an agent-based architecture to inspect hosts for vulnerabilities and apply the appropriate fix.



- 1 Subscription service updates server catalog with newly available patches over the Internet.
- 2 Patch-management server notifies administrator that a new critical patch is available.
- 3 Administrator schedules patch for deployment via server.
- 4 Agent queries server for instructions, including new deployments. Agent requests, downloads and installs patch scheduled by administrator. Agent reports the status of the installation back to the patch-management server.

that patch to vulnerable machines.

More-sophisticated patch management systems are equipped with features that make the patch-deployment process more intuitive, secure and efficient. For example, certain systems let administrators create groups of computers within a network to expedite the patching process. Other important features in enterprise patch management systems are the ability to remediate against mandatory baselines; the creation of role-based administration control to enable specific functional access by various users; and the ability to aggregate enterprise-reporting data from multiple patch

management servers.

Additional features, including patch roll-back, ongoing audit and compliance controls, inventory reporting, and the ability to create custom patches for home-grown applications, let some automated patch-management systems deliver a comprehensive solution to meet the vulnerability detection and remediation needs of firms.

Automated patch-management systems help support a company's patch management best practices.

*Andrew is vice president of product management for PatchLink. He can be reached at [chrisa@patchlink.com](mailto:chrisa@patchlink.com).*

### Got great ideas

■ *Network World* is looking for great ideas for future Tech Updates. Contact Amy Schurr, senior managing editor, features ([aschurr@nww.com](mailto:aschurr@nww.com)) with suggestions.

## Ask Dr. Internet

By Steve Blass

**We have a multicast server Web application that connects groups of desktop users to a support forum, similar to an instant-messaging service. Workstations that have upgraded to XP Service Pack 2 cannot connect to this service. We believe the new firewall is blocking the connection but aren't sure how to adjust the settings for a multicast connection. Can the XP SP2 firewall be opened to allow multicast connections?**

The XP SP2 firewall can be configured to permit connections to and from a multicast service. To change the firewall settings, open the Network Connections applet in the control panel, right-click on the Local Area Connection icon and choose Properties. Click on the Advanced tab in the Properties dialog and click on the Settings button. This opens the Windows Firewall dialog. To change the firewall configuration, uncheck the Don't Allow Exceptions check box, click on the Exceptions tab

in the Windows Firewall dialog and click the Add Program button. Choose your multicast client program from the list of programs, or browse for it using the Browse button. Once the program has been added to the Exceptions list, you should be able to connect to your multicast server.

*Blass, a network architect at Change@Work in Houston, can be reached at [dr.internet@changeatwork.com](mailto:dr.internet@changeatwork.com).*



## GEARHEAD INSIDE THE NETWORK MACHINE

Mark  
Gibbs



**T**his week we start with a question: Are we missing something, or is Windows XP's implementation of TCP/IP as pathetic as we suspect it is?

We ask this after setting out to test an interesting device called the Sentinel Model 1000 from Highwall Technologies (it monitors for rogue wireless activity).

We were trying to set up a dual homed Windows XP machine. (In other words, we wanted to give it two IP addresses on one interface). It turns out you can indeed do this as long as both addresses are static. This means that using DHCP to get an IP address on one connection and using a static IP address on the other connection is a no go.

Our question is, Why would you ever build in such a limitation? It makes no sense, and we can't find anything on Microsoft's Web site or anywhere else that explains why this limitation exists.

As we researched this issue we found an interesting tool that addresses the problem

# Branding XP's logon

of switching network configurations: Net Profiles, written by Daniel Milner (details at [www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4230). This utility lets you create — you guessed it — profiles for your network configuration.

You can specify a profile name and whether the IP address and all the other details — such as DNS servers, WINS server and default gateway — are to be provided by DHCP or through a static allocation. You also can specify which network shares are mapped to which drives by the profile and the default printer.

If you have multiple adapters you can set up profiles for each and when you click on Apply Profile, voilà! Your wish is Windows' command. This is useful when you are struggling to reconfigure devices that are, by default, on a static address in a different private address space than the one you are using . . . which seems to be pretty much always the case.

Net Profiles is "donateware" — that is, it is freeware with a plea for a contribution. The tool does what it says and seems pretty robust. Send Daniel a nice donation please. He's earned it.

Anyway, our next topic is about setting your corporate branding on your XP systems — important in getting that corporate "we own you and everything around

you" look and feel. While many of you may have extensive XP experience, you might not know that you can customize the look of the XP logon screen. We, like the Internal Revenue Service, are here to help you.

Microsoft, in its usual style, hasn't made it too easy to change the logon screen (its branding is, of course, far more important than yours) or even provided much information on what goes on with the logon process.

Luckily many creative people with dogged determination have explored what goes on under the hood and have produced some cool tools.

At the heart of the logon process is a program: `logonui.exe`. To change how your logon looks you have to modify the resources in this program.

You could use a tool like ResHacker from Angus Johnson (see freeware at DocFinder: 4231) and change the various graphic and text components one by one, but there is an easier way: Use ChameleonXP from Optic Foundries.

Go to DocFinder: 4232 to get to Optic's site, but be warned: This URL for this site seems to exceed its Geocities quota with monotonous regularity so you might have to wait until the site gets its quota reset after

a lot of activity.

ChameleonXP provides a framework that coordinates the editing of all the logon interface resources, as well as installing the changes in the `logonui` file, allowing selection and installation of predefined configurations, and exporting either the modified `logonui` file or what Optic calls a "Skin-Pack" file. This file is an archive that contains all the resources for a given configuration that another ChameleonXP user can import and install.

Modifying the `logonui.exe` file is reasonably safe. So far we have yet to destroy our system, but be careful, corrupted graphics in the `logonui.exe` can apparently cause severe problems — not insurmountable ones, but ones that require rebooting into safe mode and replacing the `logonui.exe` file with its original version.

For your PC-using pleasure, we at the Gearhead Labs have constructed a Gearhead-themed logon screen that you might care to use on your PC or treat as a template for your own logon configuration.

You can find links to the ChameleonXP program download site and the Gearhead SkinPack file at DocFinder: 4233.

Tell us at [gearhead@gibbs.com](mailto:gearhead@gibbs.com) how we look on your desktop.



## Cool Tools

Quick takes  
on high-tech toys  
By Keith Shaw

### Transfer video to DVD without a computer

Sony last week launched its DVDirect device (Model VRD-VC10), which lets users transfer video from a camcorder or a videotape from a VCR and burn it onto a DVD without connecting to a PC. The DVDirect device will ship in November for about \$300, Sony says.

The system can burn up to 12 hours of MPEG-2 video onto a compatible, double-layer DVD+R DL disc, or up to six hours onto a standard, single-layer DVD+R or DVD+RW disc, Sony says. The system can connect to a PC via a USB 2.0 connection if users want to do additional DVD authoring, through bundled software; or to create data, music, CDs or other video DVDs.

Sony's DVDirect can transfer video onto a DVD disk without connecting to a PC.

But if users just want to transfer videotapes or camcorder recordings to discs without having to use a separate capture card or computer, they can with the DVDirect unit.

The device connects to a video source through composite cables or an S-video cable. More information is available at [www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4228.

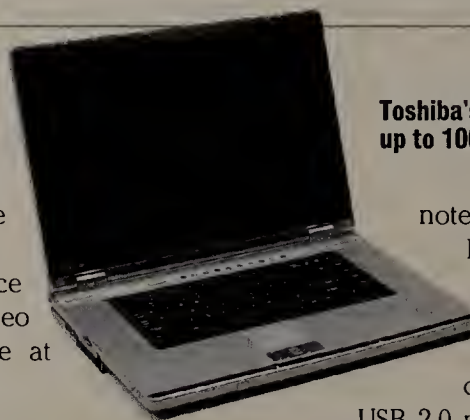
### Qosmio notebooks get new Media Center software

Toshiba's Digital Products Division last week launched new models in its Qosmio line of multimedia notebooks, which now includes the Microsoft Windows XP Media Center Edition 2005 (also launched last week). The Qosmio G15-AV501 (about \$3,000) and F15-AV201 (about \$2,600) combine

consumer electronics features such as DVD player, personal video recorder, TV tuner, stereo and computer into one device. The AV501 includes a 17-inch widescreen display, and the AV201 includes a 15.4-inch widescreen display.

The notebooks have increased hard disk space (up to 100G bytes through a 60G- and 40G-byte drive) and integrated Harman/Kardon speakers that include SRS Wow and TruSurround XT technology, Toshiba says. The systems also can play DVDs or CDs, or display television programming without a user having to boot up the notebook.

On the computing side, the



Toshiba's Qosmio multimedia notebooks now have up to 100G bytes of hard disk space.

notebooks include a 1.8-GHz Pentium M Processor 745, 512M bytes of RAM, an NVIDIA GeForce FX Go 5700 graphics card with 128M bytes of memory, and integrated 802.11g wireless LAN connectivity. Other features include four USB 2.0 ports, i.Link (IEEE 1394) port, 10/100M bit/sec Ethernet and a V.92 modem interface. A Bridge Media Adapter can read memory cards, including Secure Digital, Memory Stick (and Pro), MultiMedia Card and xD-Picture cards.

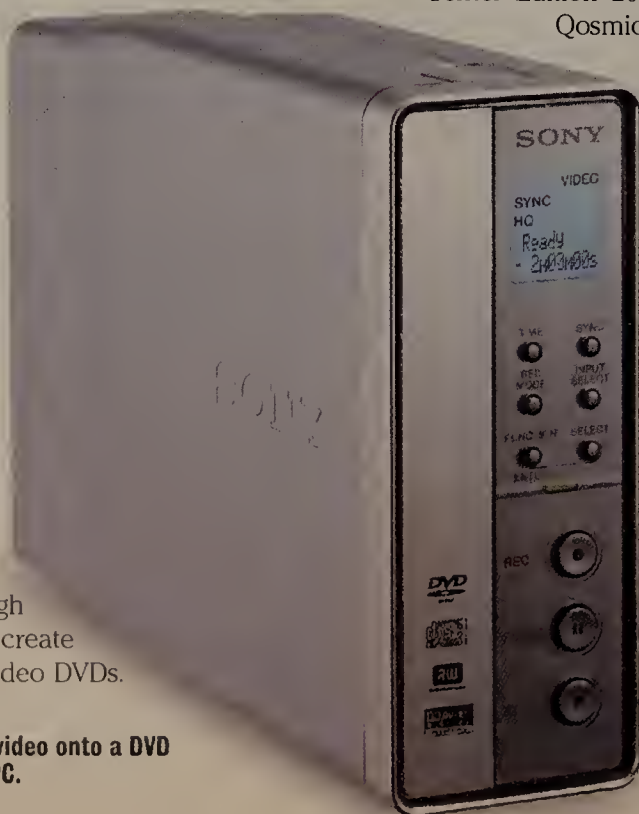
### Sharp launches new ultraportable

Sharp Systems last week launched the newest version of its Actius notebook computer line, the MP30. The successor to the company's MM20 notebook, the MP30 adds multimedia features while keeping the thin and light form. The notebook costs about \$1,900 and is available through Sharp's Web site (DocFinder: 4227).

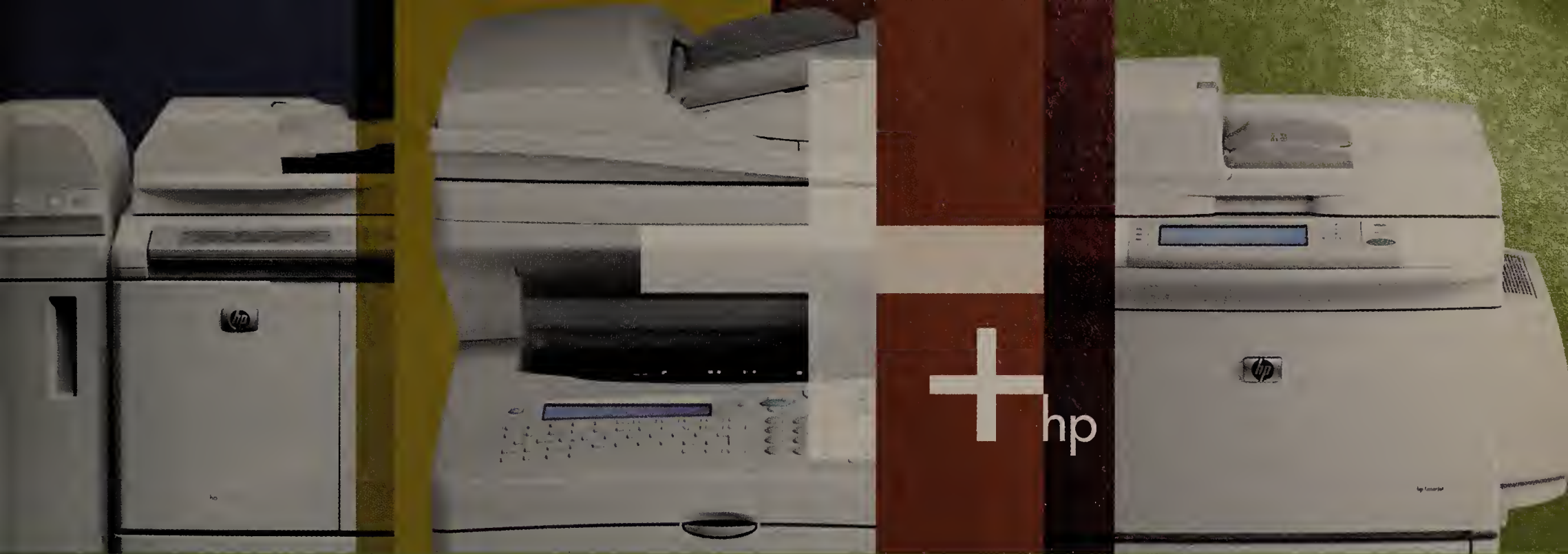
The notebook uses the Transmeta Efficeon TM800 (1.6-GHz) processor, weighs 2.8 pounds, and has a 1-inch-thick profile. It includes a 32M-byte graphics card (the ATI Mobility Radeon 7500), and has a built-in CD-RW/DVD combination drive. The MP30 includes 802.11g wireless LAN connectivity, a 40G-byte hard drive, a 10.4-inch LCD (supports 1,024-by-768-pixel XGA resolution), and offers about 4.6 hours of battery life.

The notebook also can be attached to a desktop computer and act like an external hard drive through Sharp's DirectHD technology. This can make switching files between the notebook and another computer as easy as dragging and dropping files between the MP30 and another system.

Shaw can be reached at [kshaw@nww.com](mailto:kshaw@nww.com).

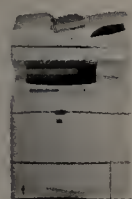






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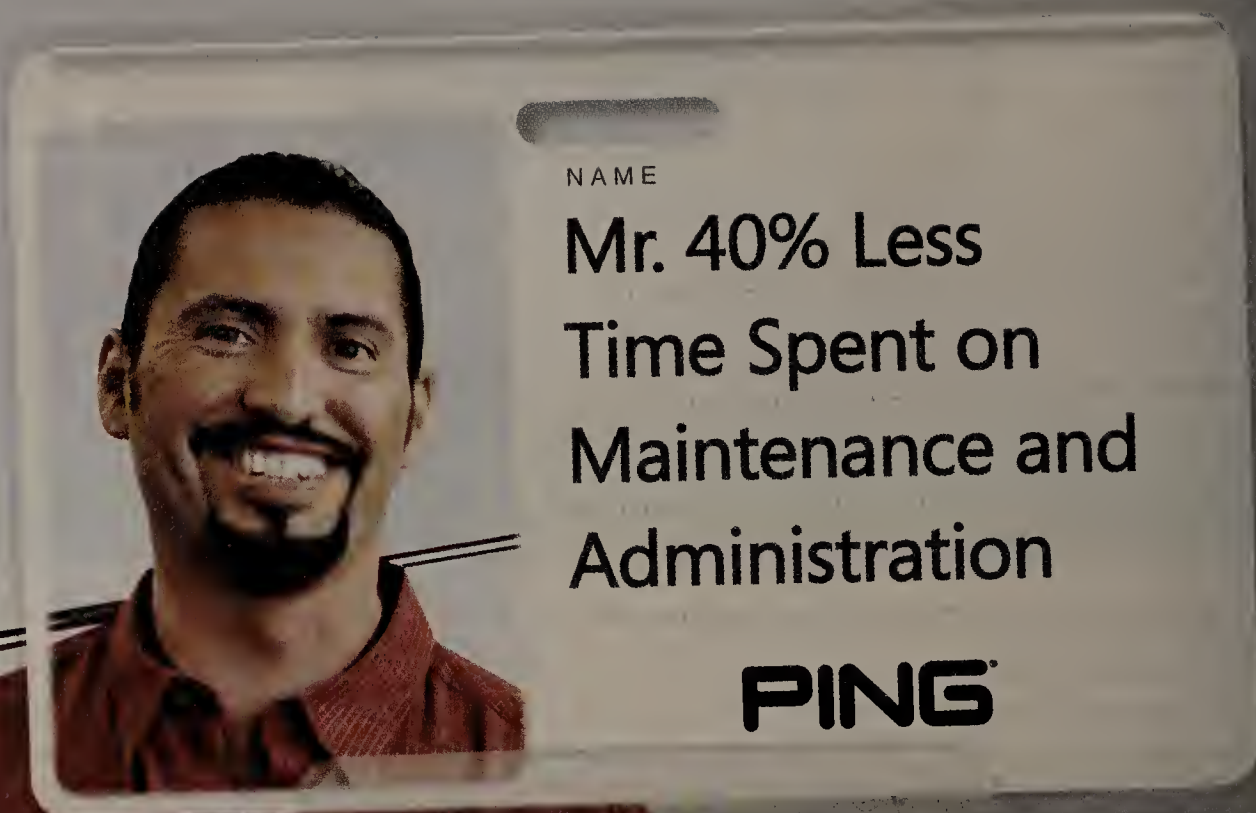
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**Dave Chacon**

Manager, Technical Services, *PING*

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## ON TECHNOLOGY

John Dix

## Stage set for VoIP, patch debates

All the parties that have been called on to participate in two upcoming Network World Showdowns are in, including six prominent VoIP vendors for a Showdown at the VON conference in Boston this week, and six patch-management players for an online debate Nov. 15.

The VON event will be our fifth Showdown at the show over the years, as we've tracked the development of IP PBXs and the rise of IP Centrex services.

This time around Avaya, Cisco, Lucent, Mitel, Nortel and 3Com have agreed to come prepared to discuss a mock RFI for a company with a New York headquarters with 400 stations and five T-1 trunks, a branch office in Hoboken, N.J., with 10 stations, five analog lines and T-1 access, and a branch office in Bakersfield, Calif., with 10 stations, five analog lines and DSL.

We've told the vendors the buyer is primarily interested in the productivity gains it can expect and how the system will support emerging technologies such as Wi-Fi phones and the ability to take advantage of presence. Each company will have 5 minutes to walk us through an architecture slide and a benefits slide, before fielding questions from yours truly, VON's Carl Ford and one of the competitors.

That will be followed by a Showdown staple: the vendors questioning each other in round-robin fashion.

We'll detail the outcome in a *Network World* story and post the slides on [www.nwfusion.com](http://www.nwfusion.com). Stay tuned.

The other pending Showdown is a virtual debate on patch management the week of Nov. 15.

With patch-management options emerging from three segments — pure play patch-management vendors, server and desktop management suppliers, and vendors that are coupling vulnerability scanning with patch management — we thought it would be good to bring representatives from each category together to see if we could ascertain which approach makes the most sense.

Accepting the challenge to participate are Altiris, Big Fix, Citadel, Configuresoft, Shavlik Technologies and Symantec.

We'll launch the online debate Nov. 15 with vendors' answers to questions from *Network World* Senior Editor John Fontana, Senior Writer Denise Dubie and guest expert Felicia Nicastro, a principal consultant with International Network Services and author of the forthcoming book *Curing the Patch Management Headache*. On Nov. 16 the vendors will be given the chance to question their competitors, and then on the following day we'll open the doors to everyone, including other vendors and readers.

I hope you can join us for these debates.

— John Dix  
Editor in chief  
[jdix@nww.com](mailto:jdix@nww.com)

### MCI responds

Johna Till Johnson's column "MCI isn't the bargain would-be buyers envision" ([www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4222) reflects a lack of understanding of MCI's global strengths and operations as well as a miscomprehension of the company's strategy.

Speculating based on other news reports, the column treats rumors about a breakup of the company as fact. This is despite the fact that MCI CEO Michael Capellas recently publicly stated, "We have no plans to break up the company."

The column goes on to suggest that MCI's network suffers from being the product of a series of mergers. MCI operates one of the most technologically advanced and expansive communications networks in the world. Our customers trust MCI to transport their most critical communications traffic throughout the world. These customers have chosen to remain with us because they recognize the quality of MCI's global network, the data and IP communications solutions it supports, and the experts who run it.

Over the years, MCI has heavily invested in its global IP/data communications network. As a result, during 2004 alone MCI has been the first data communications company to deploy an ultra long-haul network; field-test 40G bit/sec over both short- and long-haul networks; announce a Converged Packet Access strategy; and deploy the industry's latest state-of-the-art fiber, Medium Dispersion Fiber. None of these technological "firsts" would have been achieved if MCI's networks were truly, as the column says, an "unholy mess."

Fred Briggs  
President, operations & technology  
MCI  
Ashburn, Va.

E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

# opinions!

*Johnson replies: I respect your right to differ with the column, but it's important to distinguish operational excellence from cutting-edge technology. Despite the investments MCI has made in its network technology, current and departed MCI engineers have confirmed that operationally, the network continues to be complex and unwieldy to manage — an issue that potential acquirers would do well to recognize.*

### Baggage check

I take issue with some of the statements about Microsoft's file system technology in Kevin Tolly's column "Microsoft: Sitting duck — with baggage" (DocFinder: 4223). For starters, Windows NT File System (NTFS) is not an "ancient" file system with "baggage"; NTFS is light years ahead of anything else currently offered. NTFS gives Windows NT a true journaling file system, all the way back to the original version of NT in the 1990s. Linux only recently got this ability when the third extended file system (EXT3) came out. Prior to that, Linux users had to use the Reiser file system or an IBM file system. NTFS supports multiple file streams within a file, ACL-level security, encryption and a plethora of other features that are missing in many other file systems. Windows Future Storage (WinFS) is the next generation in file system technology — something Linux and the Unix world have not begun to really think about.

I especially take issue with Tolly's statement that WinFS would bring Microsoft "into the 20th century." If this is the case, please show me the other vendors or options that are so superior to NTFS. Most Linux file systems are still playing catch-up with NTFS.

Christopher Rose  
Kansas City, Mo.

*Tolly replies: I did not compare NTFS with Linux. Rather, I compared Microsoft's challenges now to those with which IBM had to contend in the main-frame world of the 1980s and early 1990s.*



**More online!** [www.nwfusion.com](http://www.nwfusion.com) Find out what readers are saying about these and other topics. **DocFinder: 4221**







## PACKET EVANGELIST

Steven Taylor

**I**s there any innovation in the network marketplace anymore? There's a thundering silence as compared with a few short years ago, when every time you turned around there was a new protocol, a new product addressing unmet business needs, and a new forum to promote these new products.

Today, only three areas — VoIP, security and wireless — constantly generate news, and the rate of change in these areas has slowed over the past few years. Instead, we're seeing more emphasis on streamlining and economizing existing processes rather than inventing new ones. Have networks evolved to the point that there's nothing new to be done, so all that's left is to deliver services at the lowest possible cost?

Innovation is alive and well, but it also depends on how you define innovation. Innovation goes far beyond invention; it includes taking existing technologies, concepts and products, and combining them in a unique fashion. For example, Net 6 is certainly innovative in taking now-standard SSL technology and expanding it from browser-based interfaces to encompass VoIP over SSL.

Similarly, innovation can be used to solve a problem that innovation causes. Take wireless LANs (WLAN). The innovative 802.11 products from a few years ago work great as long as the footprints don't overlap. But they work so great that they also cause a problem — how to provide complete coverage over an entire campus while controlling access, providing roaming capabilities and avoiding interference. To solve this problem, companies such as Airespace, AirFlow, Aruba and Trapeze came out with innovative approaches to fully meshing WLAN coverage.

# Is network innovation dead?

One could even argue that this re-purposed innovation is superior in many ways to invention. Invention generally takes a wholesale swap-out and generates technology wars. We don't need to return to the early 1990s with transport protocol battles between frame relay, ATM and Switched Multimegabit Data Service. It's preferable in today's economy for companies to have better ways to do core processes using an existing or almost-existing infrastructure.

Economics and innovation must work hand-in-hand. While innovation is usually viewed as good, it will only be meaningful today if it also has a strong business case to support it. Having a good business case can even change "bad" innovation to "good" innovation.

Skype is a case in point. To many IT administrators, the fact that Skype's founders also invented KaZaa overshadowed any possible benefits that peer-to-peer communications could have in the business environment. However, Skype's excellent voice quality and ease of use started softening this attitude. The introduction of gateway services to the public switched telephone network, providing international calls to many locations for about 2 cents per minute, might make this innovative technology even more acceptable.

The bottom line, then, is that innovation is alive and well, albeit in some less-radical forms than in years past. But for this innovation to be taken seriously in today's environment, there's an even stronger imperative that the innovation also have a strong business value.

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**We're seeing more emphasis on streamlining and economizing existing processes rather than inventing new ones.**



## REALITY CHECK

Thomas Nolle

**A**s one network salesperson once said to me, "The trouble with the Fortune 2000 is that there are only 2,000 of them." While the enterprise market has been the mainstay of private network equipment sales, it's a market that's not getting any bigger. It's not surprising that vendors eager to add earnings

and profits are looking more at the "small business" — whatever that is.

Cisco recently introduced Catalyst products targeted at small business, and its press material uses the same definition of a small business as the Small Business Administration — one with less than 500 employees. My projection from U.S. Census data is that there are about 5.7 million companies in the U.S. Of these, more than 99% are small businesses by the SBA definition. That's certainly a big quantitative market, one that justifies vendor interest. On looking deeper, though, you might find that there's less to small business than meets the eye.

How big does a company have to be to need a LAN or WAN? My research shows that businesses with 100 or more employees on-site have an almost 100% chance of running a LAN. If you look at businesses with between 20 and 100 employees, the odds go down to about 60%. Businesses with less than 20 employees have about a one-third chance of needing a LAN. On the WAN side, only about 16% of small businesses at the 100- to 500-employee level need multi-site networking, and this number drops to less than 10% in the 20- to 100-employee range, and to near zero below that. This is interesting because there are only about 86,000 firms in that sweet 100- to 500-employee slot. There are more than 500,000 in the 20- to 100-employee range and 5 million in the 1- to 20-employee range. My research model shows that there are about 2 million LAN prospects and about 82,000 WAN prospects. That's a lot fewer than 5 million businesses.

Then there's the "empowered employee" issue. LANs are used by workers who spend most of their time at their desks, which turns out to be only about 39% of small-business workers. This means that a top-tier,

# In search of the small business

100- to 500-employee company would need about 75 LAN ports. The 20- to 100-employee group would have an average of 25 LAN ports, and the low tier would have only five. The number of LAN ports needed by all groups is an impressive 24 million, but 42 million of this population is in firms that would never need more than 40 ports. More than 24 million would need fewer than 10 ports. How about the WAN stuff? Of the 82,000 more-than-Internet WAN users, nearly 70,000 are only VPN-over-the-Internet prospects. The remainder needs an access router with an average 2.3M bit/sec access capacity (about a T-1 and a half).

Not only are the capacity demands of small business small, but their feature needs are also small. Only 4.4% of the total small-business population have skilled technical people on staff. It's very doubtful that any company in the lower two tiers would ever need network management; their LAN products could be over-the-counter stuff that costs about \$350 for 24 ports. Well over half the small-business population would need only one such switch, and even the largest of the small business groupings would need an average of only three. In the WAN, the average retail price of a single access router, even for the largest of the small businesses, is also about \$350.

This isn't just an exercise in statistics; it's an exercise in market direction. The "small-business market of the future" is not just a scaled-down version of the enterprise market. It's uninterested in technical features, not suitable for direct sales tactics and as price sensitive as the dickens. If this truly is the way of the future, then the vendors are going to become more like 3Com, D-Link or Linksys than Cisco.

Do the new features of network products actually add value, or just add cost? Is it time to buy network gear as many already buy PCs — from discount retailers? Small businesses might be leading the market in a totally new direction.

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**The "small-business market of the future" is not just a scaled-down version of the enterprise market.**



# Cutting cell phone costs

Flat-rate plans skim the fat off wireless spending.

■ BY LAURIANNE MCLAUGHLIN

**A**re your company's wireless expenses starting to look as large as Martha Stewart's legal bills? You may consider an option for slimming down wireless costs that remains little known or understood by many corporations: customized flat-rate plans.

Instead of buying buckets of minutes for each employee or a pooled bucket of minutes for employees to share, customized flat-rate plans let you pay as you go, at a set rate per minute, with no overage penalties. You negotiate the per-minute rate with any of the major national wireless carriers based on number of phones and a minimum number of minutes or dollars spent per user, per month.

"It's sort of a hidden marketplace," says Michael Voellinger, director of wireless service for Telwares, a consulting firm that helps customers make such deals. "Unless you ask, you'll never know it's there."

When companies allow employees to choose their own wireless phone and plans, the results are messy. Telecom managers end up with complicated brews of various plans, then struggle to maximize efficiency, track costs, and budget for the future. Yet according to The Yankee Group, 48% of U.S. corporations let employees do the picking.

At the same time, wireless spending continues to devour a larger chunk of enterprise telecom budgets. For U.S. firms with 500 or more employees, the average total amount spent on wireless services will spike from \$3.6 million to \$4.7 million, a 31% increase from last year, according to Yankee's 2004 Corporate Wireless Survey. Most of these costs are wireless voice services, not wireless data services.

A desire to better manage those escalating costs drove Rock-Tenn, a packaging firm in Norcross, Georgia, to examine flat-rate options. Rock-Tenn, which among its 90 locations has about 425 AT&T Wireless users and 250 with Nextel, recently negotiated a flat-rate contract with AT&T Wireless with the help of Telwares consultants. A Nextel deal is in progress.

"It's a cost issue and a simplicity issue," says Bob Zumwalt, Rock-Tenn's director of technology. "You pay for what you use and only what you use. It's easy to comprehend, to audit, to present to business units, and it's much easier to plan for."

Flat-rate plans usually involve a monthly access fee of \$10 or less per user combined with a flat per-minute rate. AT&T's pricing starts at \$13 per month and 12 to 15 cents per minute, before negotiations. Discounts depend on number of phones and total expenditure, while carriers require a minimum number of minutes or dollars spent per user, per month.

Zumwalt can't specify his per-minute rate because of a

contract stipulation. But based on the two billing cycles since the changeover, he says he expects to reap 30% to 40% savings overall, which represents between \$207,000 to \$276,000. In a typical year, his company pays AT&T Wireless for almost 4 million wireless voice minutes, with the typical user consuming 800 minutes per month. "Previously, we had buckets of minutes, and we were constantly in the plan optimization game," he says.

But don't expect customized flat-rate discounts to apply to wireless data services. All-you-can-eat monthly data plans in the \$70 to \$80 range, from carriers such as Verizon and Cingular, will continue to be the most typical option for enterprise clients for the foreseeable future.

## Finessing a flat-rate plan

To varying degrees, all the major national wireless carriers will offer flat-rate wireless voice to enterprise customers, says Telwares' Voellinger. And more of his clients are pursuing flat-rate, he says, even though the carriers still push traditional pooling plans.

"The bottom line is the rate plans that have been out there are really complex," he says. "What's driving this move to flat-rate is customers saying 'I need something that's less complex.'"

Along with simplifying wireless cost structure, flat-rate plans also slim down spending. "Where flat-rate pricing has been implemented, we have seen solid, inclusive cost-per-minute numbers running less than 8 cents," Voellinger says.

While every deal is different, enterprise customers typically can save 20% to 30% when renegotiating rates and moving from a mix of standard pooling plans to customized flat-rate plans, says Ben Fox, who negotiates deals for customers at telecom consulting firm

TechCaliber. "If you're big enough (say more than 5,000 handsets) you can negotiate the access fee to zero," he says.

Beware of some common traps regarding flat-rate plans. First, don't focus too much on per-minute cost, Fox advises. Focus on the whole usage pattern picture for your company. For example, free night and weekend minutes and mobile-to-mobile minutes can significantly increase a deal's value. And it's easier to negotiate these items than per-minute discounts, Fox says.

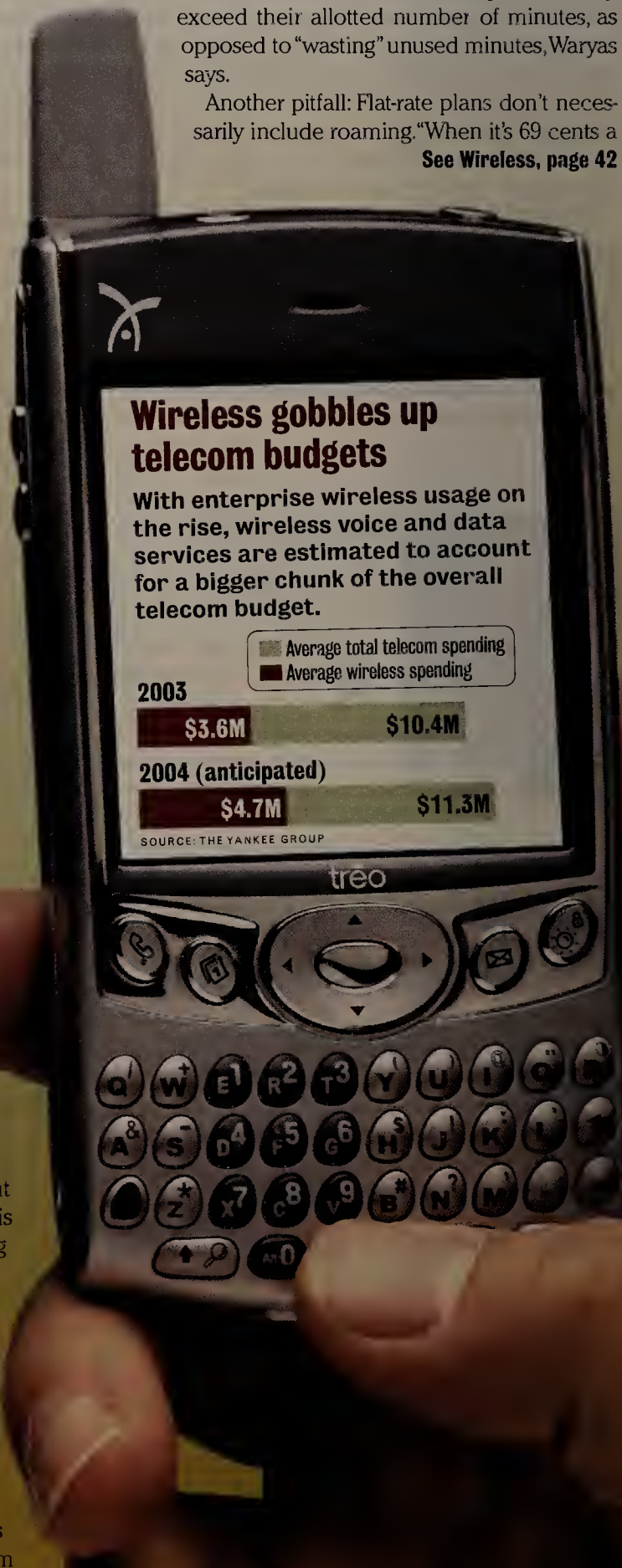
"A 9 cent rate across the board might sound good, but if it doesn't take advantage of in-network and off-peak calling, it might not be right," says IDC's Keith Waryas, research manager for wireless business network services. If your company makes 15% to 20% of wireless calls between employees, you could save a lot simply by consolidating to one carrier with free in-network calling, he notes.

Night and weekend minutes won't count toward the monthly minimum amount that carriers typically require.

On the other hand, most companies today exceed their allotted number of minutes, as opposed to "wasting" unused minutes, Waryas says.

Another pitfall: Flat-rate plans don't necessarily include roaming. "When it's 69 cents a

**See Wireless, page 42**





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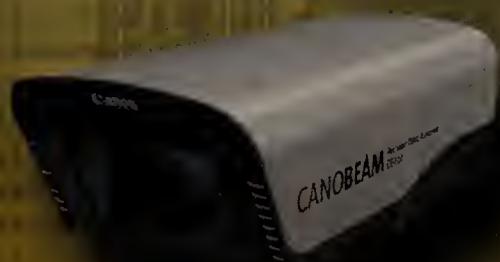
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**Wireless**

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minute for roaming, it doesn't take long to wipe out savings," Fox says.

Finally, carriers prefer that flat-rate plans involve "corporate liable" phones (acquired

through a company contract, with the company having end credit liability) to "corporate-supported" phones (bought by employees, taking advantage of corporate-negotiated discounts.)

Flat-rate plans work best for Fortune 500 or 1000 firms with variable monthly costs,

and which are willing to possibly switch carriers, says Eugene Signorini, program manager for wireless/mobile enterprise and commerce at The Yankee Group.

"Unless you have a high number of lines, it's tough to negotiate on flat rates," he says, so mid-sized companies will have a tough

time. Still, mid-sized firms may convince some carriers to move on price, especially T-Mobile, which has been particularly aggressive, he says.

Little-used phones may be another area where flat-rate plans could save your company money, says Aaron Cook, a telecom analyst at Intermountain Health Care of Salt Lake City, which runs 12 hospitals throughout the state.

Since Intermountain started using a flat-rate plan about two years ago with MobileSense software to manage and track its 20,000 employees' wireless voice usage, the company has discovered a sweet spot

**Solid savings**

Rock-Tenn's flat-rate wireless contract shaved about

**30% to 40%**

off its wireless costs, which equates to roughly \$207,000 to \$276,000.

for flat-rate usage. "Our costs were getting too high," Cook says. "We had policies in place but no way to enforce those."

Today, any phone used for 150 minutes or less per month gets put on the company's negotiated flat-rate plan from Verizon Wireless. This includes "disaster" phones that Intermountain keeps on hand in case land-line service goes down. "Flat rate does save a lot of money, but it has to be the right fit for the user," Cook says.

**Telecom trends**

While AT&T Wireless has offered flat-rate pricing since 2000, the carrier has not seen an uptick in demand for flat-rate plans recently, says Joe Lueckenhoff, a vice president at AT&T Wireless.

Looking ahead, flat-rate will become an option used by more companies, but this trend doesn't look like it will rewrite the wireless voice game, IDC's Waryas says. Most companies will use a mix of plans, including a customized flat-rate plan and traditional pooled plans, instead of putting all employees on one type of plan, he predicts.

For IT managers who do end up examining flat-rate plans, Zumwalt has some advice. Start with detailed research, including a solid baseline estimate of current services and costs.

"Keep your RFP short and to the point," he says. Define your expectations, and don't be bashful about stating acceptable price ranges and service levels. Doing so will help you develop a vendor shortlist, finalize the vendor, and complete the contract negotiation. "This technique got high marks from the vendors and made everyone's job easier, especially ours," he says.

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# CLEAR CHOICE

## TEST

### Network-modeling tools

## Opnet's IT Guru is tops in modeling an enterprise network

■ BY JEFFREY FRITZ, NETWORK WORLD LAB ALLIANCE

**S**imple questions sometimes don't have simple answers. When questions like: "Can we increase the bandwidth to our regional offices?"; "Can we provide more redundancy for our critical links?"; and "Can we do this and reduce costs at the same time?" are asked of enterprise network executives, it becomes more difficult. Keeping the complex beast of the various network sections running efficiently at maximum bandwidth and minimum cost is a monumental task.

Fortunately, network-modeling tools let designers or operators test changes to network topology before they are implemented in a production network. We recently tested the ability of three packages — Opnet Technologies' IT Guru 10.5, Analytical Engines' NetRule Version 6.0, and Shunra Software's Shunra/Storm Version 3.1 — to model changes to predict their impact on the University of California, San Francisco (UCSF) campus network. (See How we did it at [www.nwfusion.com](http://www.nwfusion.com), DocFinder: 4229.)

We found that IT Guru was the most accomplished of the three products. It scaled easily to accommodate just about any production enterprise network and had powerful tools for analyzing net-

work issues. NetRule was very easy to configure and learn, providing good modeling tools, especially for LANs. Shunra/Storm did an especially fine job modeling WANs. Although each package has specific strengths, all are competent packages and share many common analysis tools and capabilities.

#### Modeling accuracy

The key to network modeling is the ability to closely match the generated network model map to the real network topology. We wanted to find out how accurately each product modeled events such as link failure, link change, device failure, load change, route change and link overloading.

IT Guru handled all these issues with aplomb. It let us implement changes on the fly. We could change factors such as Open Shortest Path First (OSPF) link costs, Hot Standby Router Protocol (HSRP) timers and OSPF timers, and immediately see the impact on the network. IT Guru took every configuration change we threw at it, and it accurately predicted the behavior of routing protocol and topology changes. There seemed to be nothing too complex or tricky for IT Guru.

Changes in our model did require accuracy on our part. For example, we modeled two HSRP-connected routers. We entered all the HSRP attributes in both routers, but the HSRP model

refused to work. It turned out we had forgotten to set the default gateway in the router configurations. Without this information, IT Guru simply would not establish the HSRP session. Because this is exactly the same thing that occurs in a real-world network, we were impressed with this feature.

While NetRule could accurately predict the impact of many network topology changes, the product has some limitations that concerned us. For example, to test load sharing we created two links, a 1G bit/sec link and a 100M bit/sec link. We reduced the 1G bit/sec link to an OSPF cost of zero, expecting the model to show a preference for the higher-bandwidth, lower-cost link. But the NetRule model assumed an equal cost between the 1G bit/sec and 100M bit/sec links. Mystified, we called NetRule support and were informed that to change the OSPF cost we had to delete one of the existing links and then re-create it with the new cost. We couldn't simply change the cost on the existing links. The inability to change costs on the fly seemed to us to be a major omission.

The NetRule library contains a reasonably large selection of vendors and products. However, it does allow customization of any network models, such as changing the CPU processing power and interfaces. The tool does not check for configuration errors or device inconsistency, nor does it check for IP address conflicts or protocol errors. It seemed that the model assumes that users do not introduce input errors. That is a large, and probably unreasonable, assumption.

A very nice feature of Shunra's tool is that it can record network conditions directly and play them back. This enables real applications to run against the simulation. For example, we could send voice packets and streaming video between devices connected to Shunra/Storm's StormAppliance. When we intro-

See Tools, page 48

### Net Results

#### IT Guru 10.5

OVERALL RATING  
**4.85**

**Company:** Opnet Technologies, [www.opnet.com](http://www.opnet.com). **Cost:** Typical configurations range from \$50,000 to \$150,000, depending on product module configuration. **Pros:** Very scalable, powerful, sophisticated modeling, accepts configurations directly from popular network management packages such as HP OpenView and CiscoWorks. **Cons:** Steep learning curve; features are overwhelming at first; pricey.

#### Shunra/Storm Version 3.1

OVERALL RATING  
**4.00**

**Company:** Shunra Software, [www.shunra.com](http://www.shunra.com). **Cost:** \$47,800 as tested. **Pros:** Real-time simulation, excellent for modeling WAN links, uses Microsoft Visio as the user interface. **Cons:** Less capable for modeling enterprise networks; very long reboot time.

#### NetRule Version 6.0

OVERALL RATING  
**3.23**

**Company:** Analytical Engines, [www.analyticalengines.com](http://www.analyticalengines.com). **Cost:** \$25,000 as tested. **Pros:** Easy to deploy, user-friendly interface, easy to learn. **Cons:** Lacks some of the features and capabilities required for modeling enterprise networks; no direct import from popular management packages.

The breakdown	IT Guru	Shunra/Storm	NetRule
Modeling accuracy 50%	5	5	3
Performance 25%	5	4	3.5
Configuration 15%	5	4	3
Installation 5%	4	5	4
Documentation 5%	3	3	4
<b>TOTAL SCORE</b>	<b>4.85</b>	<b>4.00</b>	<b>3.23</b>

Scoring key: 5: Exceptional; 4: Very good; 3: Average; 2: Below average; 1: Consistently subpar





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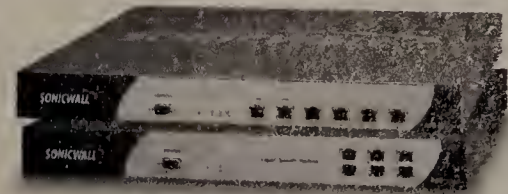
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# SONICWALL



## Tools

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duced delay, packet loss or jitter, or reduced the link bandwidth, we actually could see the video degrade or hear the audio drop out. This feature makes it extremely easy to determine the minimum acceptable criteria required for specific applications across various links. We found this a very useful feature. With IT Guru and NetRule, we could get this same information, but it was presented numerically.

## Configuration and performance

With its optional Multi-Vendor Import (MVI) module, IT Guru can import configuration directly from Cisco and Juniper devices. For other vendors' gear, Opnet requires the optional Virtual Network Environment (VNE) server. The VNE server supports network devices from Cisco Catalyst IOS, Extreme Networks, Foundry Networks, Nortel and other vendors. We were disappointed that IT Guru could not import more non-Cisco IOS devices' configurations directly, instead of requiring optional products that cost extra.

There are multiple ways to handle the IT Guru configuration. For example, it can use the optional VNE server, import text files from CiscoWorks or create network objects manually. It also can query an HP OpenView server, which lets it build a model of the production network that is automatic and up-to-date. However, this requires modifying the OpenView server configuration to accept connections from the workstation that is running IT Guru. Our IT security team wouldn't give us access to a production OpenView server from a test lab machine, so we couldn't test this feature. Instead, we modeled the Cisco devices in our network using data provided by a CiscoWorks text file export, along with manually created Foundry network devices.

IT Guru imported the backbone network device configuration for 120 Cisco devices from our CiscoWorks file in less than 3 minutes. Because IT Guru is very sensitive to

syntax errors, creating manual configurations for the Foundry gear was a painful and time-consuming process. To make matters worse, there was no warning or alert that flagged syntax errors. The model simply refused to work properly.

For performance, IT Guru led the pack. The product is very flexible and scalable, providing many customization features. The user interface offers several options and templates that let users drag and drop several kinds of network topologies. This creates a product that is sophisticated, powerful and complex. At times, we found ourselves overwhelmed by its rich features and complexity.

NetRule required little time and effort to configure and build a network model. The product provided a palette of Cisco-specific and generic network devices. Model creation is straightforward. Simply drag and drop devices from the NetRule library to create the network, adding the appropriate links and routing protocol information. Next, define the source and destination, and the required resources such as priority, message bytes, delay and traffic type. We felt this was as straightforward as a model configuration can be.

Unfortunately, NetRule does not interface with management packages such as OpenView and CiscoWorks. NetRule can read a CiscoWorks text file, but not as directly as IT Guru. The text file has to be in the predefined format that NetRule expects. This made the replication of our large-scale production environment a labor-intensive process. As a result, we couldn't easily import our 120-device network topology into the product. Instead, we manually created a 12-router subset of our production network. It took us about 30 minutes to model the 12-router, full-mesh network topology.

Once the model was completed, we could create reports based on configuration changes to the devices and links. The NetRule reporting feature was very good, and provided a graphical display of network utilization, delay, traffic



Shunra's Storm 3.1 appliance excels at modeling WAN links.

flow and the like.

NetRule's performance was acceptable. It took longer than we expected for the application to launch, but once it started, NetRule seemed to operate relatively quickly in displaying the result whenever we implemented changes to the model.

Shunra's approach to network modeling is more empirical — it literally records the network conditions directly and plays them back, while enabling applications to run against the recorded model. Because of this approach, some typical modeling parameters don't apply to the product, such as importing network configurations from CiscoWorks or OpenView.

Configuration involved right-clicking on a link or device in Visio and making changes through a drop-down menu. We could then observe the changes on the network by watching how the applications running through StormAppliance behaved. A built-in Sniffer-like protocol-decode function was a plus. Shunra's reporting function produces a nice real-time chart that displays throughput per second in and out, queues, delay and packet counts.

Shunra is a hardware-based, network-modeling product. That gives it somewhat of an edge in terms of performance over an entirely software-based modeling application. In most instances its speed was as good as or better than the other products in terms of implementing network-modeling changes. However, the appliance did have an annoying tendency: Whenever we changed certain model parameters, we had to warm-boot the hardware. For example, switching StormAppliance between Layer 2 and Layer 3 (switching and routing) required a reboot, as did turning on and off multicast. (It's often preferable to change between switching and routing in the same network to observe the performance characteristics of a network model using Layer 2 switching or Layer 3 switching/routing.) Adding insult to injury, the reboot process was slow — it took more than 2 minutes.

## Installation issues

Opnet's IT Guru 10.5 is a complete product. We received four CDs that contained the Report Server module, the IT Guru application, documentation and the Opnet Model Library. The package also includes the Application Characterization Environment (ACE), Simulation Runtime, Flow Analysis, Net Doctor and the ACE Decode Module. There are numerous modules (some come with the base product, some are included depending on the spe-

cific configuration ordered, and some are optional at extra cost.) The number of modules available for IT Guru reflects the flexibility and complexity of the product. This isn't a package that you just install and walk away from. It has a plethora of options and capabilities that need to be mastered before a user can take full advantage of it.

IT Guru installed without problem, although it took nearly 10 minutes to install the model library, which checks in at a whopping 830M bytes of hard drive space. We were surprised that the installation process required two complete reboots to make the program ready for use.

NetRule was far more compact, taking up a mere 13M bytes of space, but it doesn't not contain the tools and modules that IT Guru has. NetRule took just more than a minute to install, with no reboots required.

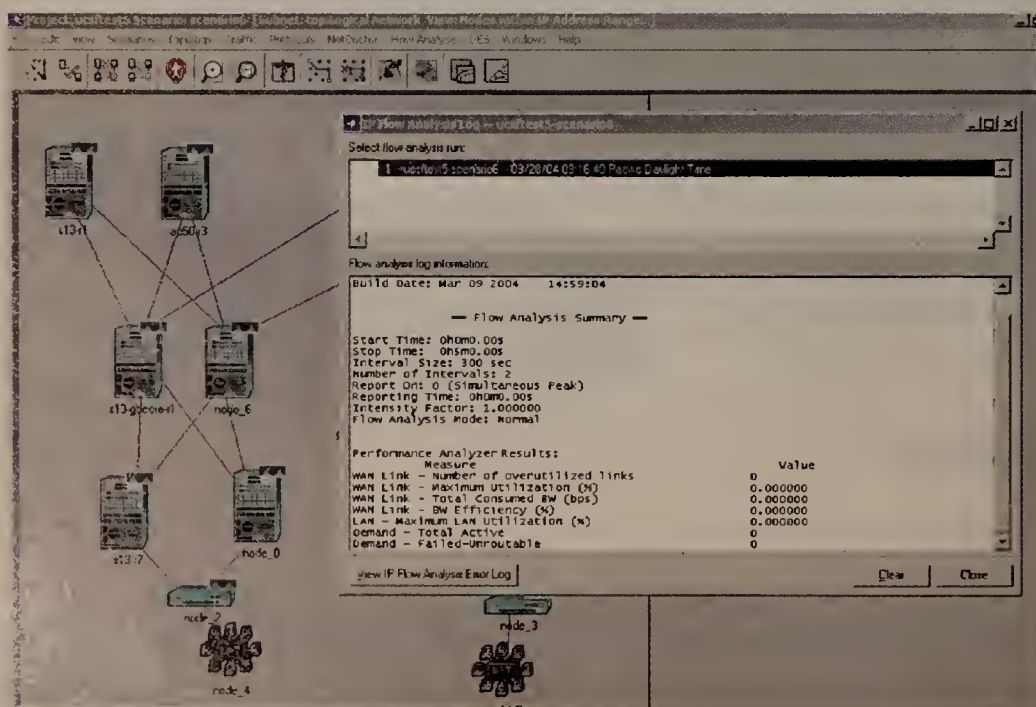
The Shunra/Storm package included the StormAppliance hardware, StormCatcher (enables the capture and replay of network activity) and StormConsole. StormAppliance is responsible for emulating link conditions such as bandwidth, packet loss, delay and out-of-order packets. StormConsole (a Microsoft Visio macro) creates the network model and is used as the interface to StormAppliance. Installation of StormCatcher and StormConsole was brief. We had some problems attaching our laptop to the network ports on StormAppliance. The Dell Latitude notebooks equipped with 100M bit/sec Ethernet PC cards could not connect to StormAppliance, while another Dell laptop with an integrated Gigabit Ethernet port connected without a problem. After searching the documentation, we found that PCs must be connected to the appliance using the supplied crossover cables. We were using regular Ethernet cables. The Gigabit Ethernet-enabled laptop supported auto-sensing of cable configuration. Shunra should have pointed out the need to use the crossover cables in the installation section instead of burying this in an appendix.

## Documentation

The IT Guru documentation is on a CD-ROM and online. If a customer requires printed documentation, there is an extra fee. We were surprised that a product this complex and expensive did not include professionally printed documentation.

NetRule's printed documentation appeared to come from a color laser printer. We would have preferred a higher-quality

See Tools, page 50



Opnet's IT Guru is pricey but powerful.



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**Tools**

continued from page 48

presentation, although the necessary information was included.

Shunra provided a professionally printed user manual. The configuration procedure is

nicely laid out. We were disappointed in the amount of effort it took to dig out some specific information from the documentation (for example, our crossover cable issue).

**Deployment considerations**

IT Guru is extremely powerful and fea-

ture-rich. Users are expected to possess both a thorough knowledge of networking and the product itself, giving it the highest learning curve of any of the products we tested.

Even after a full day's training by Opnet, we sometimes scratched our heads when

we tried to use several of the product's advanced features. However, once we began to understand the product, it became clear that IT Guru was almost unlimited in its capabilities.

Network engineers looking for a sophisticated package that can model almost any enterprise network would find IT Guru to their liking.

NetRule doesn't have all the bells and whistles of IT Guru, but what it lacks in muscle power it makes up for in user friendliness.

After attending a one-day training session, we could create network models without problem. This easy-to-learn package does a decent job modeling smaller-sized networks, making it ideal for modeling building or departmental LANs.

While Shunra doesn't compare to IT Guru and NetRule for in-depth enterprise network modeling, it does show how applications and networks can be affected by bandwidth throttling, link limitations, packet delay, jitter and the like. Using Visio as the device interface was a brilliant idea.

It is the rare network engineer or designer who isn't at least somewhat familiar with Visio. This makes it a terrific front end to Shunra/Storm, and significantly reduces the learning curve. It has excellent capabilities to simulate frame relay, T-1s and Gigabit links. This, coupled with drop-downs that allow on-the-fly changes to links, make Shunra/Storm a natural for modeling WAN connections.

*Fritz is the director of Enterprise Networking Services for the University of California, San Francisco, and is responsible for network technology development and campus-wide voice and data network operations. He has a master's degree in electrical engineering from West Virginia University, and is the author of Remote LAN Access: a guide for networkers and the rest of us, and Sensible ISDN Data Applications, which is in its third printing. He can be reached at jfritz@its.ucsf.edu.*

**NW Lab Alliance**

Fritz also is a member of the Network World Lab Alliance, a cooperative of the premier testers in the network industry, each bringing to bear years of practical experience on every test. For more Lab Alliance information, including what it takes to become a partner, go to [www.nwfusion.com/alliance](http://www.nwfusion.com/alliance).

**Acknowledgements**

The author would like to thank the members of the UCSF Network Key Applications Lab (UNKAL) test team — Fred Allen, Allen Chan, I-Chen Lee, Peter Loo, Kevin Potts, and Steve Young for their assistance — in the product testing.



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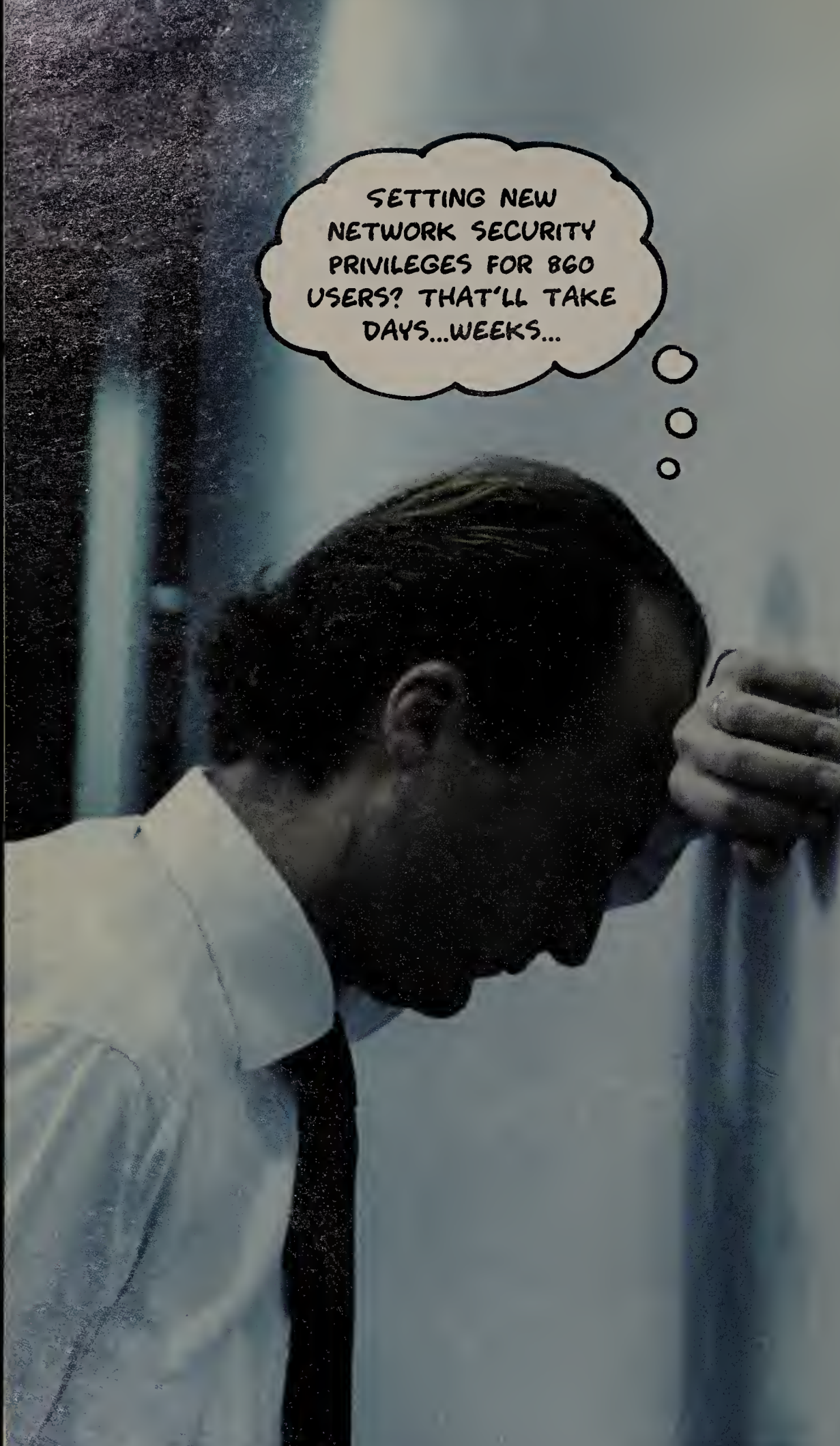
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Linux lowdown

Consider the options with open source certification.

■ BY DENI CONNOR

Doctors, lawyers and certified public accountants all require certification, and IT consultant Doug Freyburger doesn't think expectations of Linux professionals need to be any different.

"They are respected and well paid because of their certifications," says Freyburger, a senior consultant for Collective Technologies who is certified by skills-measurement site Brainbench. "To the extent that Linux certifications have the promise to evolve to the level of the CPA certification tests, I support them."

Many programs have sprung up to meet growing interest in using Linux certification to validate technical skills. Among them are Brainbench, the Computer Technology Industry Association (CompTIA), the Linux Professionals Institute and Sair Linux, which all offer vendor-independent programs and testing in Linux. Novell and Red Hat offer several courses and tests based on their individual distributions of Linux. And the Systems Administrators Guild, a group of Usenix network professionals, offers basic networking exams and specialized Linux, Unix and Windows modules.

"By obtaining certification, the applicant has a respected third party willing to stake [its] professional reputation that the candidate has a certain minimum level of competence," says Tommy Reynolds, a Red Hat Certified Engineer (RHCE) who works as a Linux trainer for MegaCoder.com in Danville, Ala. "Certification is an independent endorsement of one's abilities."

Ron Gage, a systems administrator under contract to IBM in Southfield, Mich., says certifications are more effective than a college degree because they demonstrate actual knowledge of the subject. Gage holds the Linux Professionals Institute Certification 1 (LPIC1), the CompTIA A+ and Network+, and the Microsoft Certified Professional and says vendor-neutral certifications are the most useful.

"If you were trying to get a job at a company that used Slackware Linux and you had the Red Hat certification, you would be at a disadvantage. The generic certification is much more likely to establish broad knowledge of multiple Linux distributions," Gage says.

According to Reynolds, the particular certification type matters less than the process required to obtain it. Compared to a multiple-choice exam, "a performance-based certification program provides an additional level of information about a candidate's skill set by presenting a series of real-world challenges to an applicant in a real-world setting with pressure, deadlines, and all the rest," he says. He views the Red Hat Certified Architect and RHCE timed lab exams among the best.

Hands-on Linux experience is most important to Joe Poole, manager of technical support for Boscov's in Reading, Pa. "Certification says to me that the person

passed some tests," he says. "It doesn't say whether there is enough practical experience to do the job."

The retailer uses SuSE Enterprise Linux Server on its zSeries mainframe to run his company's Web site. If Poole has a question on attaching Fibre Channel storage devices to the retailer's mainframe, he refers to the IBM Redbook: *Linux on zSeries: Fibre Channel Protocol Implementation Guide*. "Get out the IBM Redbooks, and give it a try," he says.

Improved options

Reynolds says becoming certified in Linux should help IT administrators get better jobs or better pay. "Obtaining certification in Linux helps distinguish an applicant in a

sea of job seekers," he says. "Certification attests not only to the skill competency level, but also shows commitment and a willingness to go an extra step in one's professional development."

But as much as IT pros think Linux certification is a pathway to a better job, they would find that few positions specifically require it. A recent search of positions on job site Dice.com turned up 2,900 positions requiring Linux experience, roughly 5% of the 56,000 or so total postings. As of early October, only 300 of Dice's job postings required Linux certification. Of these, Red Hat topped the list with 118 positions, while SuSE trailed with only 46 jobs requiring it.

Like other certifications, Linux specialists shouldn't expect certification to drive up their compensation. "When Linux adoption began, there was a big run on Red Hat certification and then the LPIC2 came out," says David Foote, president of compensation analyst firm Foote Partners. "There was a bit of a spike in pay, but as the supply equaled out with demand, the price remains stable." ■

Learning Linux

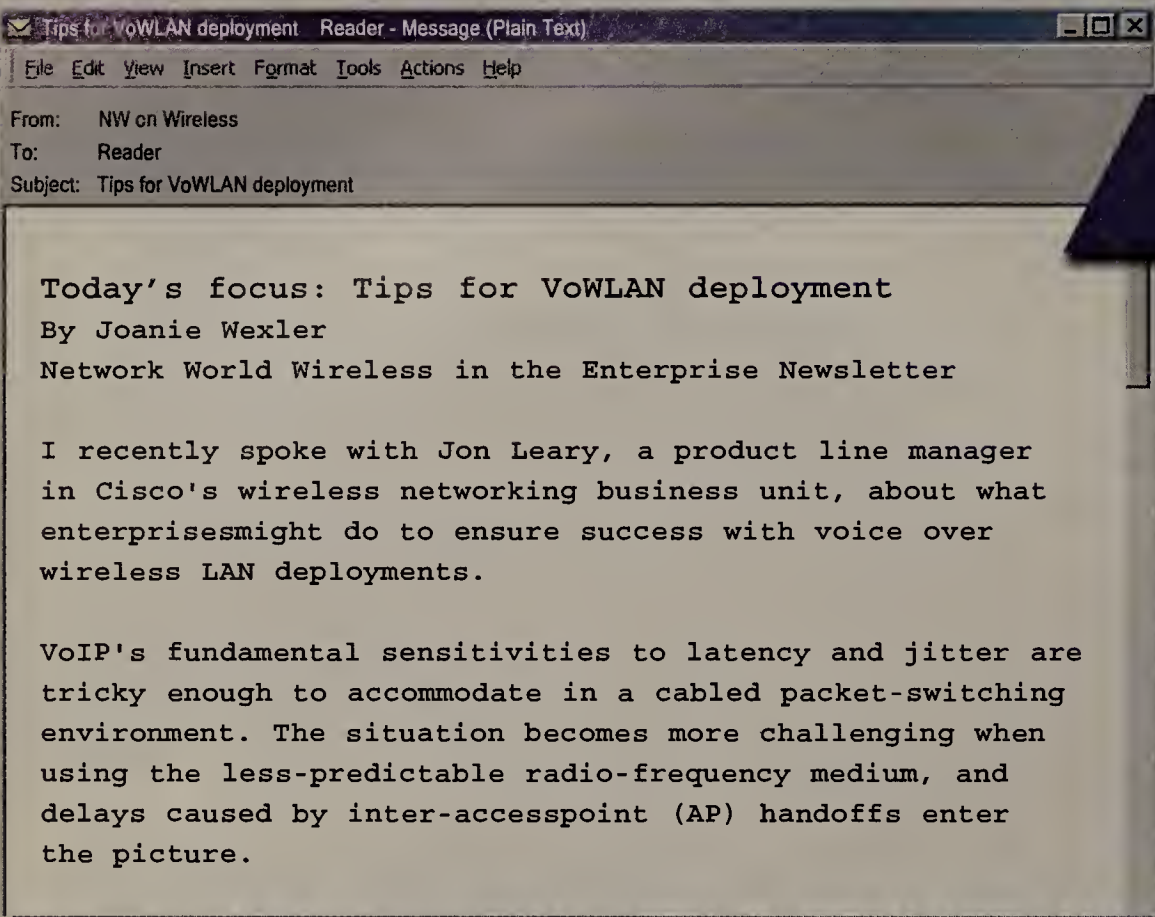
Organization	Certification	Focus	Prerequisite	Exam type
Computer Technology Industry Association (CompTIA)	Linux+ Certification	Any Linux administrator	Six months of Linux experience	Multiple choice
	LPIC1	Installing Linux PCs, attaching them to the LAN	None	Multiple choice
	LPIC2	Installing small Linux networks	LPC1 and two years of Linux experience	Multiple choice
Novell	LPIC3	Installing multi-site networks	LPIC2	Multiple choice
	Certified Linux Professional	Manage Linux administrative tasks	None	Multiple choice
	Certified Linux Engineer	Networking in a heterogeneous environment	Knowledge of Linux administration	Multiple choice
Red Hat	Red Hat Certified Technician (RHCT)	Installing Linux PCs, attaching them to the LAN	No experience	Multiple choice, hands-on lab
	Red Hat Certified Engineer (RHCE)	Linux server, networking and security services	RHCT or equivalent experience	Multiple choice, hands-on lab
	Red Hat Certified Architect	Installing multi-site networks	RHCE equivalent experience	Multiple choice, hands-on lab
Sair Linux	Linux Certified Administrator	Linux networking, installation, configuration and security	None	Multiple choice
	Linux Certified Engineer	Sendmail, SAMBA, Apache and Linux core essentials	Linux Certified Administrator	Multiple choice
Systems Administrator's Guild (SAGE)	cSAGE	Systems administration	Experienced systems administrator with mentor	Multiple choice, lab
	mSAGE	Operating system and network administration, problem solving, programming proficiency	SAGE certification	Multiple choice, lab



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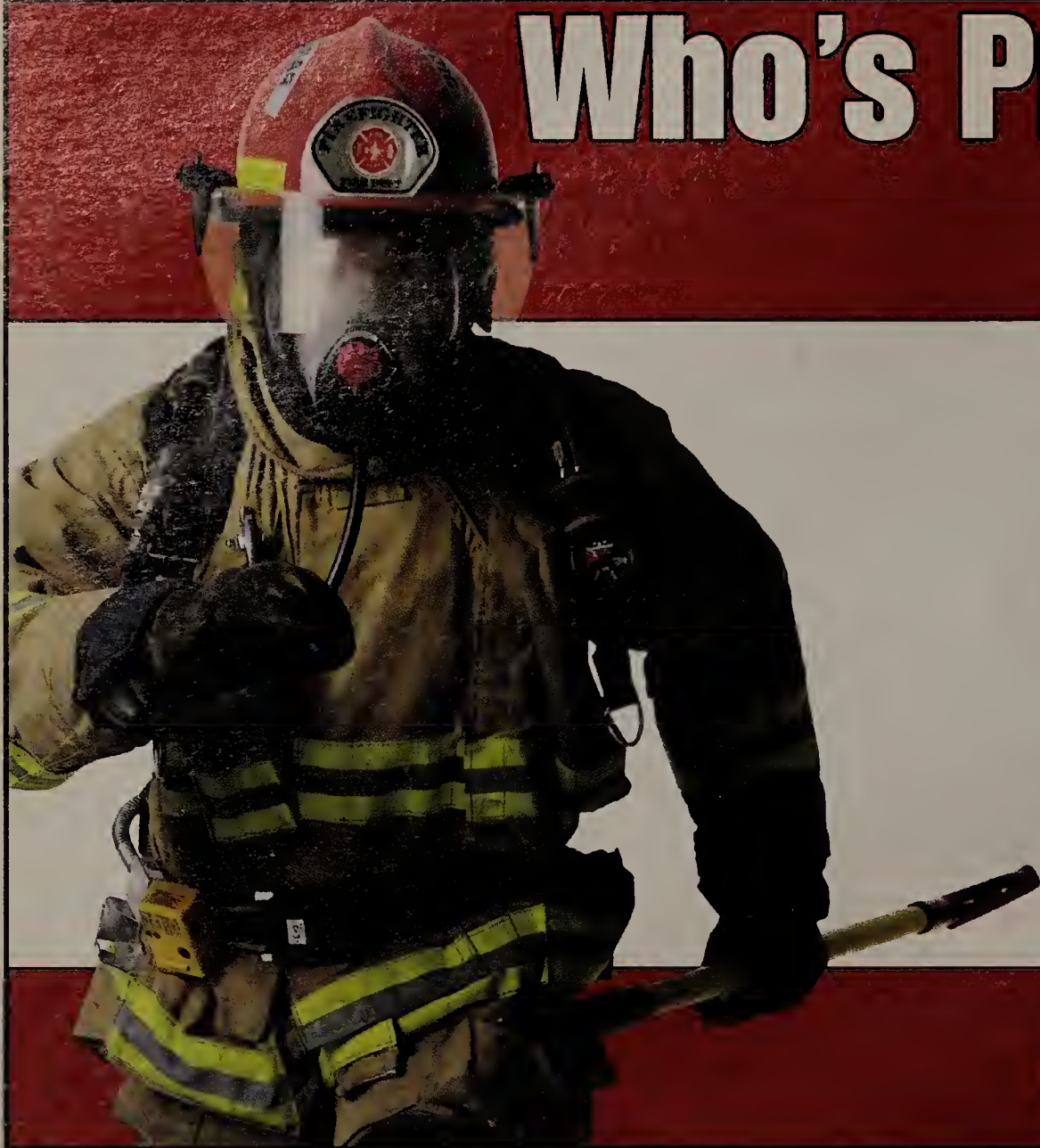
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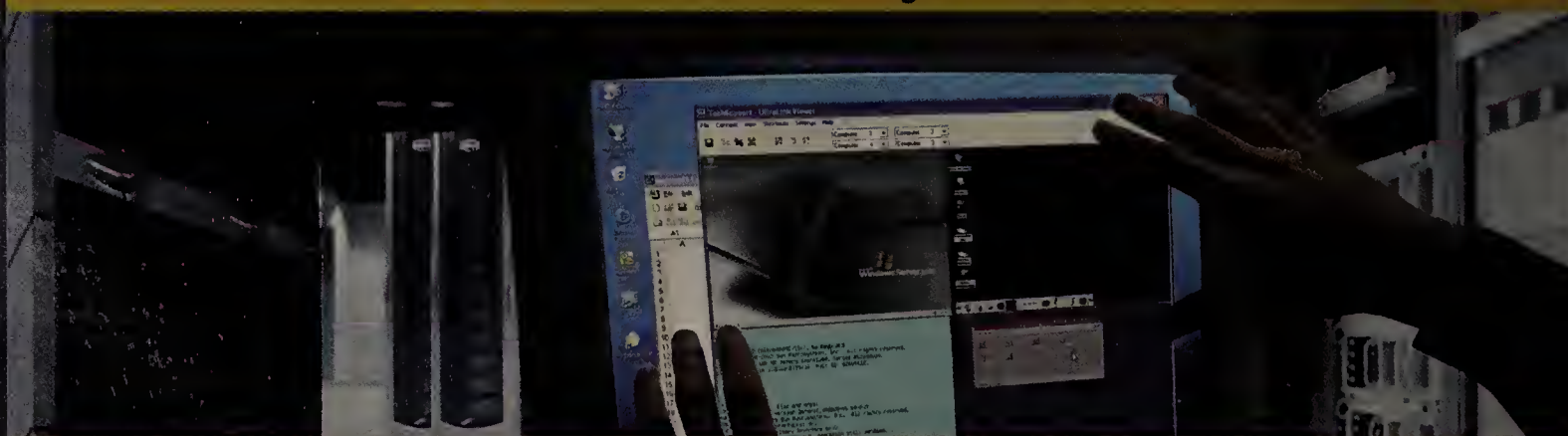


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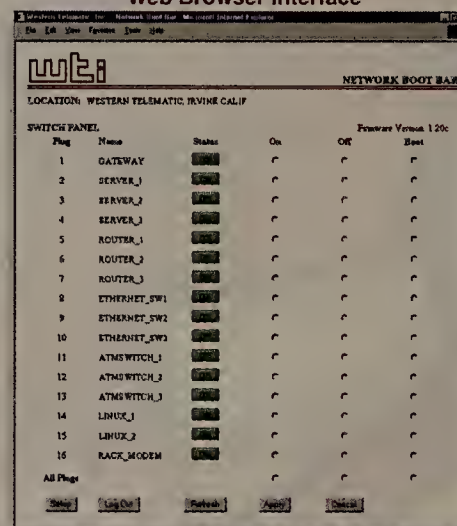
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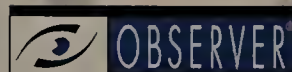


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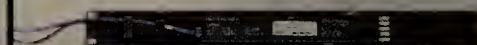
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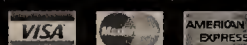
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Bally Gaming + Systems is seeking a Director of Research & Development for the MindPlay product group in its Las Vegas, NV office. The Director will manage and develop all aspects of software development for Bally's advanced table games management technology group. This group utilizes an artificial intelligence hardware/software system that utilizes an embedded, high-speed image processing and computer vision components. Bally requires qualified applicants to be "hands-on" managers who will help define the overall architectures, specific interfaces and functionalities of Bally's system. This includes both leading and assisting electrical, mechanical and software engineers in developing advanced mathematical algorithms and software specifications and language for the optical hardware and computer vision software used in Bally's system. The applicant must be able to participate in the development of the system software. Qualified applicants must have a U.S. Bachelor's Degree or equivalent in Computer Science, Engineering or a related field, plus seven years' of progressively more responsible experience in in-depth object recognition, computer vision, algorithm development and imaging hardware design for dynamic environments. Gaming experience required. For consideration, please send your resume to:

Bally Gaming + Systems  
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6601 S. Bermuda Road  
Las Vegas, NV 89119-3606

### Information Systems Manager

Req: BS degree in Info Systems or related field. 2-yr exp in related occupation. Exp. to include Network & Database Admin, ERP Admin, Computer Programming (Client/Server & Web), IS Supervision in discrete mfg environment. Proficiency & exp. w/ the following or similar s/w: Win2k Svr, Linux/Unix, SLMail/Exchange, BackupExec, Symantec AV, ASP, HTML, iHTML, Frontpage, VFP, Access. Thorough knowledge & exp. in ERP modules incl: Distribution, Mfg, Fin., & integration of ERP modules w/ 3rd party s/w. Duties: Dev. IT strategies to support co. goals; recommend req. h/w & s/w upgrades; work w/ dept. mgrs. to implement I.S. apps; Coord. w/ vendors for acquisition of products & services; Implement max. network & Internet availability; Ensure max network & data security; Maintain user network accts; Assign user permissions to network resources; Setup & maintain network printers & servers; Troubleshoot, repair, & deploy apps on client PC's; Admin. mail server, network anti-virus, & RDBMS; Perform systems analysis & design; Develop VFP apps; Provide technical & functional support for existing ERP s/w; Dev. new ERP prog. which supports co. Lean Mfg; Dev. web apps & assist in improving existing co. website; Integrate existing apps w/ web apps & create programs to synchronize web data w/ in-house data; other duties as assigned. Send resume to: HRD, Bullfrog Intl, 668 W 14600 S, Bluffdale, UT 84065.

### AS/400 LEAD OPERATOR:

AS/400 Specialist responsible for daily system operations, software releases, implementation, security, admin & developing documentation. Train operators. Req. Business Recovery and management skills. Job located in Miami, FL. Supervise 6 employees; Bachelor Degree in Computer Sciences or equiv educ & exp; 2 yrs exp. in the job offered or 2 yrs exp. as a AS/400 System Operator; \$44,080 per yr; 9:00am-5:30pm; 40 hr wk. Send resume to Agency for Workforce Innovation, Re: JOFL-2565132, P.O. Box 10869, Tallahassee, FL 32302.

### IT PROFESSIONALS

#### Manager

(Glen Mills, Pennsylvania and other locations through the U.S.). Coordinate, design and implement technology enabled business solutions involving integration of ERP/CRM applications such as Oracle and Siebel through Tibco. Function as an integrator between business needs and technology solutions, leading the architecture of the technical solutions by creating process flows, designing documents, and developing and implementing test scenarios. Diagnose client/technical issues, manage projected time-lines to effectively deliver interfaces according to deadline. Lead team of consultants and provide them with direction and advice on design of documents, building interfaces, testing and deployment. Serve as a mentor to the team members in technologies such as Oracle ERP, Siebel CRM, Tibco Adapters, Oracle PL/SQL, SQL, Java, C++, and Integration Managers. Manage day-to-day client relationships at peer client level. Engage in overall project analysis by assessing projected timetables, project expectations and available financial and human capital resources. Participate in proposal development and sales presentations involving Enterprise Application Integration (EAI) using Tibco, and Enterprise Resource Planning (ERP) applications such as Oracle ERP.

The wage offered is \$102,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Mechanical Engineering or Engineering + 5 years of experience in the job offered or 5 years of experience as a Manager, Senior Consultant, Consultant or Associate Consultant. Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service. Related experience must include at least three years of Java, SQL and C++ programming languages and at least one year of EAI Solutions Middleware, Tibco middleware, Oracle ERP, Oracle PL/SQL and Siebel CRM.

Please send your resume or CV, referencing Job Order Number WEB460739 to the: PA Careerlink, 701 Crosby Street, Suite B, Chester, PA 19013-6096. EOE.

Oracle Applications Database Administrator. Provide production support DBA services for Global Oracle Applics, v.11.0.3 running on SUN Solaris, incl all ERP & CRM modules; provide production support for Oracle 9i D/base support for Red Hat N/work & Red Hat.com running on Red Hat Linux 7.2; provide DBA services for Oracle 11i upgrade, incl migrating 11.0.3 to 11i & switching from SUN Solaris to Linux, & upgrading Oracle's RDBMS (Relational Database Management System) from 8.1.7 to 9i & 9i applics server, migrate & support Oracle Applic Servers on Apache Web Server; upgrade & patch current Oracle Applics using Oracle's std tool set; monitor & tune Oracle Applics SQL to improve performance in production & dvlpmnt envrmts; monitor & adjust growth of Oracle d/bases; provide DBA support for Oracle Applics Dvlpmnt group & Red Hat N/work engrs; dvlpmnt & support reporting envrmt that enables Red Hat employees to perform data mining on Red Hat data. Req: Bach (or equiv) in Comp Engg or Comp Sci; 3 yrs in job offd or 3 yrs as S/ware Engr/Oracle Applics DBA; I) Min. 3 yrs of 1) Oracle Applics DBA exp on SUN Solaris or Sequent Dynix systms, incl installation & implmnt of ERP & CRM modules, d/bases & servers; 2) Oracle Applics Patching; 3) Exp creating & tuning SQL & PL/SQL scripts; 4) Exp in d/base backup & recovery procedures, d/base creation, & DBA maintenance tasks w/Oracle Applics; 5) Exp w/Oracle Applics advanced performance & applics tuning & Unix shell scripting; II) Min. 2 yrs of exp performing upgrades & migrations of Oracle Applics systms from 9.4.2. to 11i & Oracle Applics d/base upgrades from 7.x to current release; III) At least 1 yr practical exp w/HTML & JSP. Also reqd: Willingness & ability to provide 24/7 on-call support, telephonically & in-person, in-house & at client sites, on alternate wks. Hrs: 40+; Salary: \$ 85K/yr. Interested applicants apply at nearest Employment Security Commission office or send resume to Employment Security Commission, 3351 Carl Sandburg Ct, Raleigh, NC 27610. All resumes & applications must incl SS# & refer to JO# NC7251711 & DOT code 039.162-010.

SYSTEMS ENGINEER (Tampa, FL) - Resolve systems design & implementation problems for international clientele in accordance with company standards & practices. Initiate & provide conceptual solutions to satisfy new &/or changing business requirements. Provide technical evaluations of hardware, software & tools & procedures utilizing COBOL, Easytrieve, JCL & DB2. Determine the impact on proposed changes on system architecture & provide technical solutions to meet documented requirements within schedule. Identify, recommend & document effective design methodologies & tools to be utilized during the design, coding, testing, implementation & installation phases. Monitor system performance to identify areas that need improvement. Position requires a Bachelor's Degree in Bus. Admin or Comp. Info. System, oral & written fluency in Spanish & Portuguese & 2 yrs of exp in the job offered or as an Engineer, Programmer or Analyst. 2 yrs of exp must include exp with data processing using COBOL, Easytrieve, JCL & DB2. M-F, 9-5, 40 hrs/wk. \$71,500/yr. Submit resume to Agency for Workforce Innovation, PO Box 10869, Tallahassee, FL 32302-0869, Job Order FL-2563128.

Senior Programmer Analyst - At Quest Diagnostics, Inc., we've become the nation's most respected name in diagnostic testing by focusing on integrity, innovation and quality. We've created an environment where dedicated professionals can learn, grow and advance - all in an atmosphere of pride. We're currently seeking a Senior Programmer Analyst to be based in Lyndhurst, NJ. Candidate will perform overall design & architecture for IDAA computer system for order entry & processing of clinical lab tests. Code, design, test, document & maintain IDAA (Oracle/UNIX). Utilize iLog rules and CHARVA to program JAVA nClasses for user interfaces. Req'ts: Bachelor's degree in Comp. Sci., Electronics, or related field, and 5 yrs exp. in Software Development. Exp. must include 5 yrs exp with JAVA, UNIX, Oracle and n-tier architecture of business info processing systems, and exp with CHARVA and iLog Rules. EOE/M/F/D/V. Please add source code: 41625 and forward your resume to Email: [Charlene.R.Troncelliti@questdiagnostics.com](mailto:Charlene.R.Troncelliti@questdiagnostics.com) or Fax: 610-650-2056.



System Analyst. Two positions open. Oversee computer system reqs at company that compiles int'l trade data into proprietary s/w-based systems to conduct data analyses. Monitor WAN/LAN for bandwidth usage, traffic pattern, & security loop-hole. Perform security patch, s/w upgrade, backup, & user support. Maintain CISCO Routers, Switches, PIX Firewall, Fiber optical module, Gigabit network setup, & PowerVault/SAN storage solution. Be avail. after-hours in emergency. Configure Firewall, DNS, & VPN; set up iMail & Anti-Spam s/w, Norton Virus Scan, Windows Active Directory, PDC, BDC, & security. Assist in dev. Store Procedure & Triggers. Maintain multiple high avail. and perf. databases (consisting of int'l trade data w/diff. currencies & trade terminology). Implement Microsoft SQL Security, linked server, log shipping, reporting services, & server farm configuration. Assist in s/w testing & client support. Prereqs: Bach. in computer sci., computer eng. or related field, PLUS 2 yrs in job offered OR 2 yrs' in computer system administration or database design. Post grad. ed. in computer sci. or computer eng. may substitute up to 2 yrs' prereq exp. Competitive Salary. Job Location: Columbia, SC. Respond to: Global Trade Information Services Inc.; ATTN: R. Locklear; DOL-JK-1; 2218 Devine St; Columbia, SC 29205.

BCCUSA, Inc - South Portland, ME needs experienced Programmer Analyst having a Bachelors Degree with minimum two years of progressive work experience in developing Sybase applications using Sybase/ASE 12.5/12.11.5, T-SQL, Actuate and MQ Series. Should have experience in performance tuning of Stored Procedures and SQL queries using Showplan & Statistics I/O. Should have experience in writing scripts using Unix Shell and PERL to automate day to day manual process. Must have used utilities like BCP, DEFNCOPY, FTP. Prefer experience in Database backup and restore. Competitive salary and benefits. M-F, 40 hours/week. Please mail your resume to BCC USA Inc., HR Department, 650 Main Street Suite 201, South Portland, ME - 04106.

Programmer for sys. analysis, d/z'n., & dev. of large enterprise applns. w/ d/base & internet tech. Use obj. oriented d/z'n. & structured sys. analysis & d/z'n., s/w dev. & intgrn. on multiple CPU servers. S/W dev. w/ J2EE, Java, XML, DTD, Perl, PHP4, C, Pro\*C, Socket & Shell program. on UNIX. Sys. intgrn. on Sun's 1280 servers w/ SAML, Weblogic, iplanet web servers. D/base d/z'n. & prog. in Oracle us/ng SQL & PL/SQL. Intgrn. of Kenan's billing w/ ISP's op'n. supp. s/w. Intgrn. of external a/c agg. s/w w/ online bnkg. s/w. BS in CS + 2 yr exp. in job duties. Comp. salary. Apply: Unilinx - Code RV, 4625 Alexander Dr., #110, Alpharetta, GA 30022 with proof of perm. W/k authzn.

Fixed Income Analytics Integration Developer, Wachovia Securities, Charlotte. Provide technological and analytical support to primary trading areas. Reqs. MA in Math or Eng. 2 yrs exp. in pos. offered or as a Software Developer, Information Technology Officer, or Mathematician. The 2 yrs exp. must incl. work developing and integrating analytics for capital markets trading. 1 yr. exp. must incl. work with Java, relational databases and object oriented design. M-F, 8-5, Send resume to Meredith Elberson, Wachovia Corp., 401 South Tryon Street, 15th Floor, Charlotte, NC 28288-0475. No phone calls.

Software Engineer sought by D-T-H satellite television company in Littleton, CO to work in Englewood, CO & other unanticipated job sites in the U.S. At a senior level engage in full life-cycle software development of manufacturing & financial software applications in a client/server environment. The applications incorporate the ORACLE relational database management system & operate using UNIX, Windows or DOS operating systems. Analyze requirements; create designs; code, test, debug, modify & implement the software applications. Create documentation & provide customer support as needed. Maintain existing applications & systems, including upgrading applications. Utilize PL/SQL, ShellScript & Developer 2000 in designing & developing the software applications. Requires a bachelor's degree or foreign equivalent in computer science or related field. 2 years experience completing full life-cycle software development of applications in a client/server environment which incorporates the ORACLE relational database management system & using PL/SQL, ShellScript & Developer 2000-type tools. 8AM-5PM, M-F; \$75,000/year. Respond by resume to: Employment Programs, PO Box 46547, Denver, CO 80202 & refer to job order No. CO5094561.

#### COMPUTER GRAPHIC ARTIST/ILLUSTRATOR

Design & create computer graphics; paint illustrations & hand sketches for web sites & marketing material; design logos & other digital imaging / print work. Create animated objects & characters using hand drawing & sketching for products & service presentation. Req. exp in fine arts, graphic design & 3D animation to support internal marketing & Web/Internet efforts. Exp in setting printer services; Job located in Fort Lauderdale; Bachelor in Graphic Design or equiv educ & exp; 2 yrs exp. in the job offered; \$21.55 per hour; 9:00am-5:00pm; 40hr wk. Send resume to Agency for Workforce Innovation, Re: JOFL- 2565636, P.O. Box 10869, Tallahassee, FL 32302.

Senior Java Web Developer, Wachovia Corp., Charlotte, NC. Responsible for Java dvlpm. on authentication and hosting dvlpm. team using standard dvlpm. life cycle methodology on projects. Reqs. BA Info. Systems or Eng. & 3 yrs exp. in position offered or as a Software Developer, Programmer, or Software Eng. The 3 yrs exp. must incl. Java dvlpm. using J2SE and J2EE on Windows and UNIX platforms, work with Oracle, SQL, C/C++, developing N-tier Java appl. for appl. servers (i.e. WebSphere, WebLogic, iPlanet) and SDLC methodology and work with cryptography tools. M-F, 8-5, Send resume to Randall Buck, Wachovia Corp., 1525 West W. T. Harris Blvd. Bldg. 3A1, Charlotte, NC 28262. No phone calls.

IT Financial Analyst needed to provide account mgmt, sales & bus dvlpm, resource staffing & outsourcing, product dvlpm & mgmt of large, mission-critical IT projects; build & manage multi-million \$ portfolios; conduct presentations. Resume to: Global Consultants, Attn: Hireme, 25 Airport Rd, Morristown, NJ 07960

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Software Engineer/Systems Analyst/Database Administrator/Network Administrator, Milwaukee, WI. Must have bachelors degree or equivalent and experience in some of the following skills: C/C++, Java, Web Methods, Cold Fusion, Microsoft Technologies (Visual Basic, .NET, ASP) CRM (Siebel, Clarify, Vantive), Middle Ware Technologies (Orbix, Corba, Tibco, Vitria) Data Ware Housing Tools (Informatica, Data Stage, Abinitio, Business Objects, Cognos, Micro Strategy, Brio) ERP (SAP, PeopleSoft, Oracle Apps, Baan), Mainframe (Cobol, CICS, JCL, VSAM) AS-400, Ecommerce, Databases (SQL Server/Oracle/DB2/Sybase), Microsoft Windows (95/98/NT/2000, Exchange), UNIX (Sun Solaris, HP, AIX), Linux and QA (Win Runner, Load Runner, Silk, Quickpro, Manual Testing). **Position requirement: Must be willing to travel and/or relocate per project specification.** Mail your resumes to: [jobs@iksolutionsinc.com](mailto:jobs@iksolutionsinc.com).

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Programmer Analyst. Sought by Englewood Colorado consulting company to work in various unanticipated locations throughout the U.S. Duties: Analyze, plan, develop, test and document computer programs including business and database server applications. Evaluate user requests and software program requirements for new and modified programs. Write specifications, code, test and debug computer programs. Analyze and design databases within an application area. Use of SQL Server, PL/SQL, Visual Basic, ASP, XML, Crystal Reports, Oracle and Windows NT. Reqs. Bachelor or equivalent in Computer Science, Business Administration; Management Information Systems or related field. Plus 1 year in the job offered or 1 year in a related occupation, including Consultant, Application Developer. \$55,744/year, 40hrs/wk, 8:00AM-5:00PM. Respond by resume to WORKFORCE DEVELOPMENT PROGRAMS, PO Box 46547, Denver, CO 80202, and refer to Job Order No. CO5093663.

Senior Programmer/Analyst Responsible for design, development, analysis, test, implementation and maintenance of GUI of FLICA (Flightline Internet Crew Access) for different airlines under client/server, web-based and wireless environments using C++, CGI Script, Delphi, DHTML, JavaScript, Transact SQL stored procedure, multiple-threaded application and object-oriented programming under windows 98/2000/XP/NT. Requirements: A self-starter who is able to work independently with minimum supervision; Bachelor Degree of Computer Science or a related field with five or more years of equivalent work experience. Working Hours: 40hours/week; Salary: \$67500/year. Send resume to: Mr. Jeff Copelan at: Flightline Data Services, Inc., 404 Line Creek Drive, Suite 4, Peachtree City, GA 30269.

Leading software development company seeks software engineers. Qualified applicants must have Masters degree or (US equiv) in Computer Science, Computer Information Systems or Computer Engineering, at least 2 years experience in position offered or as a Software Developer, Software Analyst, Systems Analyst or Technical Architect and experience with Java, J2EE, .NET, Clarify, ERP, Oracle, Rational Rose and Unix. Qualified applicants send resume and salary requirements to Princeton Information, Ltd., 13200 Metcalf Ave, Ste 260, Overland Park, KS 66213. Attn: JF.

**SAP Consultant needed**  
w/2 yrs exp in computer programs using MM, SD, F1, CO, CRM, BW modules in SAP R/3 w/Oracle on Unix & Windows as the presentation server employing Rapid Application Development (RAD) & Object Oriented Methodologies. Mail resumes to: Technisoft Inc. 1279 Colts Lane, Yardley, PA19067.

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Analyze & evaluate existing or proposed software systems. Dvlpm, implements & improves progs., sys. & related procedures to process data using in-depth knowledge of software dvlpmnt life cycle. Encodes, tests, debugs & installs operating progs. & other sys. software utilizing ERP Package software (incl. MFG/PRO, SYMIX & Progress) as well as the Progress 4GL programming language. Bachelor's degree (or equiv.) in Comp. Sci., Math, Engrng, Bus. or Commerce + 2 yrs exp. in position offered or as a Software Engrn, Prog. Analyst or Sys. Analyst reqd. Exp. must incl: (a) ERP Package software incl. MFG/PRO or SYMIX, (b) Progress Database & Progress 4GL, (c) Oracle/RDBMS, & (d) UNIX Systems. High mobility preferred. 40 hrs/wk, OT as reqd, 8 am - 5 pm, \$66,730/yr. Submit resume to: Mon Valley Regional CareerLink, Donora Industrial Park, 570 Galiffa Drive, Donora, PA 15033-1385. Refer to Job Order No. WEB 462523.

**COMPUTERS - SENIOR SYSTEMS ADMINISTRATOR** - Financial Management firm seeks Senior Systems Administrator to manage, maintain and upgrade Solaris/Unix-based network's central backup system, including STK L6000 library with STK 9940B tape drives. Duties include installation/maintenance of the batch system PBS and of Solaris/Linux systems; central LDAP service; internal company web service; central CUPS-based print service; user support and security. Master's degree in Computer Science or Computer Studies and 2 years exp. in job duties required. Will accept candidates with 2 years experience as Systems Administrator of high speed networks in UNIX environment. Mail resume to RTC, 600 Route 25A, East Setauket, NY 11733, Attn: JR.

#### Analyst/Project Programmer, Lead

The Medical College of Wisconsin is seeking an analyst/project programmer, lead for its Biotechnology and Biotechnology Center to develop techniques for analysis of data from microarray and proteomics experiments. Candidates must possess a Master's degree in computer science, computing, bioinformatics or related and have knowledge of microarray data analysis using Singular Value Decomposition, Statistical Modeling of Microarray Data, and programming using MATLAB software. Three years of prior experience as a software engineer or computer programmer is also required. To apply send cover letter and resume to Medical College of Wisconsin, Employment Office-JMC1018, 8701 Watertown Plank Rd., Milwaukee, WI 53226, fax: 414-456-6502.

**Senior Client Server Developer/Analyst.** Code business logic, GUI interfaces and database interfaces using database specific languages. Design and develop GUIs and screens (e.g. develop screen application templates; design windows, dialogues, menus and toolbars for complex processes and workflows). Develop and coordinate the testing process from small application releases or complex software enhancements. Research and recommend products and new technologies for the client/server environment. Req. a Bach. Deg. Or equiv. in Comp. Sci., Eng., Math or a related field, and 2 yrs of exp. in the job offered, Software Applications, Develop. and/or software eng. Qualified candidate must have at least 2 yrs exp. in interface screen design/develop. and/or client/server programming develop. Job located in Jacksonville, FL. \$85,267/yr. 40 hrs/wk, M-F, 9am - 5pm. Send resumes to: Agency for Workforce Innovation, Ref: FL-2562153, P.O. Box 10869, Tallahassee, FL 32302.

Software Engineer: For co. specializing in mktg & mnfg of computer software, design, code, implement & test complex product enhancements. This includes researching new feature's concepts & establishing plans & coordinating them; analyze problems & suggest innovative solutions; design & test plans; train & review design work of programmers. Reqs: Bachelors or equivalent w/ computer related coursework incl. operating systems, programming languages, computer application development. 3 yrs exp in job offered or 3 yrs of programming exp. Exp must incl. Software Configuration Mgmt, incl. developing & supporting version control, defect mgmt, change control, Release Engineering, Rational Clearcase version control, Multisite, VOB/View mgmt. Proficiency in PERL Scripting, BATCH Scripting, Triggers, Make, ClearMake, Omake, UNIX, Linux, Windows. 40hrs/wk. Send res. R-4, P.O. Box 17182, Phila., PA 19105.

ImageVision.Net, Inc. seeks Computer Programmer in our Middletown, PA loc. Analysis & design of software-based solutions using scripting languages in web environ. & latest dev. languages. Software testing & documentation. Understand & adhere to project plans. Use Oracle and System Development Lifecycle process & tools including NT based web technologies, IE 5.0 and Netscape 4.72 browsers, HTML, DHTML, VB Script, Java applet, CGI/BIN, ASP and XML. Must have Bachelor in Comp. Science, Bus. Information Systems, or related + 6 months relevant experience. Resume to Carolyn Smith, ImageVision.Net, Inc., Twelve Oaks Center, 1801 Oberlin Road, Middletown, PA 17057.

Software Engineer III. Develop, operate, maintain distributed software systems; lead team of programmers developing software projects; utilize MS SQL to program & manage database applications; perform software costing; use 3D programming to build web applications. Requirements: Masters in Comp. Sci. or related field PLUS 3 yrs. exp.\* in job or as Software Engineer/Programmer incl. 2 yrs. using MS SQL & 3D programming. \*In lieu of Masters & 3 yrs. exp., will accept Bach. in Comp. Sci. or related field plus 5 yrs. exp. in job or as Software Engineer/Programmer incl. 2 yrs. using MS SQL & 3D programming. Send CV to Tietronix Software Inc., attn: HR, 1331 Gemini, #300, Houston, TX 77058, fax: 281-461-9350, email: [info@tietronix.com](mailto:info@tietronix.com).

**Senior SAP Computer Systems Analyst (National Placement)** Must be able to analyze systems supporting business processes, design solutions using SAP R/3 4.6C, perform configuration, testing, develop programs using ABAP to meet business requirements, develop interfaces using EDI, IDocs, BAPIs, perform system validations. Must have minimum 5 years of strong functional experience in customizing, implementing SAP R/3 Logistics - MM/WM, IM, LIV, Procurement, AP, AR, MRP, PP and Batch Management. Thorough understanding of SD, FI & experience in integrating SAP R/3 with i2 TMx suite of products is required. 4 yr Bachelor Degree in Management, Engineering, Computer Science, Mathematics, MIS, CIS or Foreign Equivalent required. \$100,000/yr, 40 hrs/wk, 9a - 6p. Send resumes, listing Job Order # WEB461166 to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957.

Computer Network Engineer sought by computer networking design company in Greenwood Village, CO to work in Greenwood Village and other unanticipated job sites in the U.S. Under close supervision, performs moderately complex tasks in the design and installation of data communication servers and networks running TCP/IP on Windows NT/2000 or Unix platforms. Implements network servers and hardware utilizing Active Server Pages, QPSK telecommunication devices and hardware level programming for network chipsets. Requires bachelor's or foreign equivalent in electrical, electronics or computer engineering; 1 yr exp performing the core duties and utilizing the technologies described above. M-F; 8am-5pm; \$45,000/yr. Respond by resume to Employment Programs, PO Box 46547, Denver, CO 80202 and respond to JON CO5092241

Intercall, Inc. has five openings for Software Engineers to lead teams to design, develop products for the telecom industry using VB, Power Builder, Developer 2000, Seagate Crystal, Java, XML, HTML, OOP, OOD, Oracle, Sybase, system architecture and programming on Unix, Windows NT platforms; analyze business processes to determine requirements which conform to overall strategic plan and provide operations support; train end users and team members. Require MS (or foreign equiv) in CS/Engineering (any branch)/related field & 1 yr exp in IT or BS (or foreign equiv) in one of the above fields with 3 yrs exp in IT. F/T. Competitive salary. Travel involved. Resumes to HR, Intercall, Inc., 1211 O.G. Skinner Drive, West Point, GA 31833. Please refer Job IC10904.

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Computer Systems Analyst III, Wachovia Corp., Charlotte, NC. Administer Argo ECS 4.0 system and serve as Mid-tier Type Architecture. Reqs. BA in Info. Tech. and 2 yrs exp. in pos. offered or as a Network Tech. Consult. The 2 yrs must incl. exp. networking GUI for existing mainframe and data in a fin. institution (i.e. ARGO/Bankpro) and work designing & implementing a mid-tier architecture platform & troubleshooting network problems w/ Ethernet, IP and SNA protocols, switches, routers and probes. M-F, 8-5. Send resume to Jane Higgins, Wachovia Corp., 401 S. Tryon Street, 27th Floor, Charlotte, NC 28288-0475. No phone calls.

Purchaser wanted by a computer components company in Holbrook, NY to purchase computer chips and other components for resale. 3 yrs related exp. req'd and must be familiar with overseas supply sources. Resume only to CMB Components, Inc., 630 Broadway Avenue, Holbrook, NY 11741; Attn: Peter Castellama.

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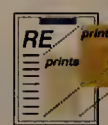
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## Spyware

continued from page 1

information or sends viruses.

• The nonprofit Internet Education Foundation and Dell last week launched a campaign to help consumers fend off spyware. The foundation published on its Web site, [www.getnetwise.org](http://www.getnetwise.org), video tutorials and tips for Internet users to keep spyware off computers and detect any spyware already installed. It directs visitors to dozens of free and commercial tools to easily remove spyware. The foundation's members include America Online, Microsoft and AT&T.

Vendors are increasingly focusing on products to combat spyware, as was evident this week with announcements from Blue Coat Systems and Computer Associates. (see story, below).

The FTC filed its complaint against Seismic Entertainment Productions and SmartBot.Net, as well as the owner of both companies, Sanford Wallace, who earned the nickname "Spamford" in the 1990s for his junk e-mail operations through another company, Cyber Promotions. In the complaint the FTC asserts that Web sites operated by Wallace were loading spyware onto visitors' computers without their consent

by exploiting holes in Microsoft's Internet Explorer.

The spyware changed the user's home page, triggered pop-up ads and crashed computers, according to the FTC. After creating the problems, the spyware caused a CD-ROM tray on the computers to open, and then sent a warning that said, "You desperately need to rid your system of spyware pop-ups IMMEDIATELY!" The message included a recommendation to download purported anti-spyware products, called SpyWiper and SpyDeleter, promoted by the Web sites for about \$30. (See Columnist Mark Gibbs' take on the government's action, page 70.)

The case was expected to begin earlier this month in a New Hampshire U.S. district court. The most immediate action might entail a judge issuing an order that could temporarily shut down Wallace's companies, observers say.

In addition to asking a federal court in New Hampshire to issue an order to prevent Wallace and his companies from disseminating spyware, the FTC wants to pursue unspecified monetary damages. (Seismic Entertainment is said to have its principal place of business in Rochester, N.H.)

"Consumers don't deserve to be pestered and spied on by people who illegally hijack their comput-

## Mind your own business

Steps are being taken at the federal and state government levels to address spyware.

- The U.S. House of Representatives this month passed The Internet Spyware Prevention Act, which makes anyone caught installing spyware to change a computer's security settings or steal personal information liable for up to two years in prison.
- The House also passed The Spy Act, which requires software that collects users' personal information to notify users of its installation, obtain their consent before installation and provide an easy uninstall option. Violators could be fined up to \$3 million.
- The Senate earlier this year passed the Spy Block Act with similar provisions to those in the House bills.
- The Federal Trade Commission last week asked a U.S. district court in New Hampshire to shut down Seismic Entertainment Productions and SmartBot.Net for unfair and deceptive trade practices related to spyware.
- A California law that takes effect Jan. 1, called The Consumer Protection Against Spyware Act, bans software that secretly steals personal information or sends viruses.

ers," says Lydia Parnes, acting director of the FTC's Bureau of Consumer Protection. "This is our first spyware case, but it won't be our last."

The FTC's case was spurred in part by a complaint filed against Seismic Entertainment and another company, MailWiper, by the Center for Democracy and Technology (CDT), a Washington advocacy group.

The spyware problem has risen

to "epidemic proportions" in the last six months, says Mike Steffen, a policy analyst at CDT.

CDT, which issued a spyware report last November, asked Internet users to notify it about specific problems they experienced. The feedback about Seismic Entertainment and MailWiper's software SpyWiper led CDT to file its complaint with the FTC. Steffen says it appears that Web banner ads at gaming and sports sites that might have appeared as innocuous public-service messages about heart disease were able to hijack the browser's home-page setting, changing the Web site to one owned by Seismic Entertainment. This is sometimes called a "drive-by download."

Steffen says the CDT was glad to see the FTC follow up on the complaint.

Wallace last week said the FTC's

case against him is unwarranted and he intends to fight it. "We feel our actions are fully legal," he said, while adding that he's open to changing some practices.

"There's some political motivation here," Wallace added. "They went after someone with a controversial, high-profile background, and they want to paint me as the poster boy in all this."

He says Seismic is bankrupt.

Companies that make a living off Web ads — and that are eager to distance themselves from any connection to spyware — applauded the FTC's enforcement actions.

"We're happy to see the space cleaned up," says Pete Celano, vice president of marketing at Weather Bug.com, which markets desktop software for weather information to consumers and businesses.

The Gaithersburg, Md., company claims its Web site has no spyware in it and cites an audit from an outside firm, Aluria Software, as verification.

IT professionals who have added anti-spyware software to their users' desktops are also skeptical that government action to either ban spyware or chase after those that create it will not do much good.

"It's a lofty goal," says Chris Hoff, chief information security officer at Western Corporate Federal Credit Union, which provides check imaging and back-office management services for about 1,000 credit unions. "Wiping out spyware is nice in theory, but as it has with spammers, new laws will probably be largely ineffectual." ■



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## Blue Coat, CA on the spyware patrol

**W**ith spyware looming larger as a security threat, vendors are rolling out products aimed at combating the menace.

This week Blue Coat Systems will upgrade its Web proxy appliance with tools that can block spyware from entering an organization and halt previously infected PCs from communicating with spyware sources.

With this upgrade (free for existing customers), Blue Coat's ProxySG appliance will be able to filter code being downloaded from the Web and block installation of spyware such as "drive-by" installers or Trojans, says Chris King, the company's marketing director.

Spyware-based communication from infected PCs attempting to send collected information across the Internet also would be stopped, he says.

Glenn Wright, senior telecommunications technologist for the state of Delaware's department of technology and information, which manages a network of nearly 150,000 users, says in addition to crashing PCs, spyware is a problem in terms of "bandwidth utilization." The state is planning to upgrade its Blue Coat appliance with spyware blockers.

Spyware is coming to play a role in the Network Admission Control (NAC) program started by

Cisco last year, which until now has been focused on virus and worm problems and how to isolate infected or vulnerable desktop computers until a remediation process takes place.

Computer Associates (CA), which recently purchased anti-spyware software vendor Pest-Patrol, announced it has joined the multi-vendor NAC initiative to make sure spyware detection and eradication is included as part of the network quarantine capability.

"What's important is not allowing the PC onto the network unless it's behaving properly, and that includes spyware as well as viruses," says Sam Curry, vice president of eTrust security management at CA. CA plans to integrate a core software component, the Cisco Trust Agent, into PestPatrol Anti-Spyware and eTrust AntiVirus by next month so both will work as NAC-compliant software in the Cisco network-quarantine process.

Curry says CA also is working with Microsoft in a parallel effort called Network Access Protection (NAP). Anti-spyware controls will play a part in what CA accomplishes in NAP isolation technology, which was started after Cisco's NAC.

— BY CARA GARRETSON AND ELLEN MESSMER

## Martin

continued from page 10

up data to disk and then to tape. With the SATA drives, much of the information that was backed up to tape will migrate to SATA.

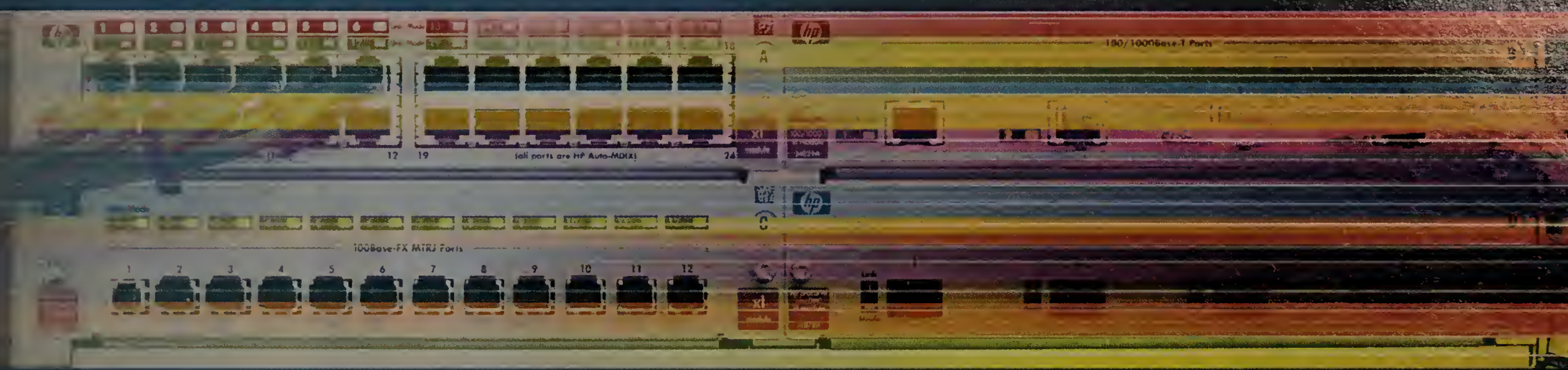
**Analysts have said that you have some holes to fill to offer an end-to-end ILM strategy. What would you say those holes are and how are you going to fill them?**

Before acquiring Storability, storage resource management was obviously a hole. We are also in the process of coming out with a fixed content system [for archival data].

**Is StorageTek's plan to gain technology through acquisition or build your own?**

We do both. We have expanded our investments in R&D in the ILM area by a factor of three in the last couple of years. On the other hand, no one company has a handle on all the intellectual property in the world, so we are constantly looking for opportunities. If that opportunity lets us get to market sooner with a strong product, we'll acquire. We typically like to make [technology] because we can integrate it into our products more efficiently, but we are not shy about purchasing technology. ■





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## College

continued from page 1

Padian routinely uses the phone to set up breakfast, lunch and dinner plans with friends or to schedule meetings in the library. Her personal directory has about 70 names.

It adds up to a lot of calling. On a typical week, students rack up about 325,000 cell minutes, and another 75,000 to 100,000 walkie-talkie minutes.

Morrisville set itself apart a year ago by unplugging wired phones in its dorms and issuing cell phones to all residential students. To do so, it struck a creative deal with Nextel Partners, the Kirkland, Wash., cellular provider that serves small and midsize markets over the Nextel Communications network.

The all-cellular plan grew out of the college's embrace of mobile computing and communications technology, says Jean Boland, vice president for IT services. The school introduced IBM ThinkPad notebooks in 1998, and

a year later, a campus-wide 2M bit/sec wireless data network based on 802.11 frequency-hopping, spread-spectrum gear from Raylink, a Raytheon spinoff.

One result, Boland says, was that students became nomadic, creating via wireless computing an array of formal and informal teams anywhere, for work and play.

"The next component was mobile communications: being able to stay in touch with whomever you wanted, whenever you wanted," she says. "The landlines just weren't cutting it."

### Making a special deal

Boland first talked with two cellular carriers that offered service in the Morrisville area, but neither was interested. Nextel was.

The carrier put together a complete, redundant infrastructure — a cell tower with multiple antennas and repeaters — to blanket the campus, and changed a variety of business practices to accommodate students. One change was its credit requirements, because most students don't have any credit.

"After some trial and error, we came up with a plan for a \$50 deposit [by the student]," says Kevin McKenzie, general manager for Nextel Partners' Syracuse market.

Another change was a flexible contract period because students wouldn't be around for a full 12 months.

The college, by contrast, made



**A Morrisville State College student collects a Nextel cell phone as part of this fall's registration process. The central New York college was the first in the nation to go with all-cellular phone services for dorm students.**

use of a number of existing practices and procedures, which smoothed the introduction. As with landline fees, the cell phone fees for students are included in the residence hall charges. The new i205 has a vibration feature, so ring tones don't have to interrupt classes or disturb concerts and library sessions. Caller ID is part of the base service.

If students want long-distance, they can select from various Nextel plans, starting at \$30 per month. Nextel has shaved a bit off these charges for students, according to the college.

The cell phone program, including an on-campus store

and some maintenance work, is managed by the Morrisville Auxiliary, a nonprofit group typical in New York and California higher-education systems for managing services such as food service and trash pickup. The group had to come up with a new system for handling the cell phones, but modeled parts of it after the system used to distribute and support notebook computers.

Some colleges have treated telco service as a revenue source, using student and department fees as a way to fund parts of the campus network. But others, including Morrisville, calculate a service fee and bundle it with other fees for services into the overall charge for on-campus residence.

When the service was unveiled a year ago, Meghan Padian's first reaction was "Why do I need

this?" She already had a cell phone, a gift from her parents. Then she realized the new phone would put her in instant connection with nearly every student on campus, and via the walkie-talkie connection, with her mom, also a Nextel user.

Boland says student dropouts last year after the fall semester dropped by 2%. She can't be certain it's related to the immediacy of relationships engendered by the cell phone, but she thinks it might be.

Another benefit of the new program is that the college now can reach every one of its residential students. The registration process at the start of the school year picks up the student's name from the magnetic strip on his ID card.

"We can reach almost every student," Boland says. "Most campuses can't do that."

So far, there are no plans to unplug the campus PBX or the faculty office phones. But that is one option to be considered in the future. Boland also is watching the development of 3G cellular data services, with throughput up to 2M bit/sec in some applications. "At some point, we'll have to figure out what we do with wireless data access," she says.

At least for now, the college plans to keep running its data and voice networks separately.

In the meantime, the shock troops of the digital generation, students like Padian continue to be plugged in to cellular reality for about half of their waking hours. "I think of it as, 'It just comes so natural,'" she says. ■

## Got great ideas?

■ Got a suggestion for a Wider Net story? An offbeat network industry-related topic? A fascinating personality we should profile? Contact Bob Brown with your ideas at [bbrown@nww.com](mailto:bbrown@nww.com).

## WLAN

continued from page 8

WLAN switch company Airespace OEM deals with NEC, Alcatel and Nortel. Rival Trapeze recently signed a joint development deal with 3Com through which the companies will collaborate on future 3Com products.

"I don't know on what basis they draw that conclusion [that the market is going to be owned by incumbents]," says Brett Galloway, Airespace's president and CEO. "There is very clearly demand for an overlay WLAN infrastructure. And we're meeting that demand."

But could Cisco dry up that demand, with its push to incorporate WLAN functions into its Catalyst switch line?

"There are successful companies that have competed with Cisco, such as firewall or bandwidth management companies," says Galloway, who previously headed Packeteer in the bandwidth management market.

Storm Ventures incubated Airespace, and investors there say they're confident about the future. Companies like Cisco have been saying for two years that WLAN functions will be a part of the wired switch architecture, says Tae Hea Nahm, a founding partner for the venture fund. "But wireless is a very tough

medium. You can have the best packet processing on your switch, but if the user can't get on your [wireless] network, who cares?"

Nahm shrugs off the demise of Legra and AirFlow. "It's a Darwinian process and not many of [the start-ups] are going to survive," he says.

Trapeze President and CEO Jim Vogt says the WLAN market is so big it's "too early to say that the big incumbents will prevail. It's big enough to sustain new players, in a potential IPO."

The 3Com deal exemplifies how Trapeze plans to be one of those players. Vogt says the deal will go far beyond a traditional OEM agreement, which has one vendor's product simply relabeled with another name. "We're doing a tighter integration of our technology on their platforms," he says. The next phase in the partnership will be licensing Trapeze software across an ever-wider array of 3Com switches.

But it's still an approach that in effect buries the WLAN inside wired switch gear.

"Our latest figures show healthy growth [for the WLAN switch vendors]," Synergy's Vance says. "They're carving out their own space."

But in the long run, he's less optimistic. "A more integrated approach will probably win out," he says. "The technologies of these start-ups will be an extension of the larger network infrastructure." ■

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## BackSpin Mark Gibbs



# Various types of blindness

**F**rom the apologies department: A couple of weeks ago I wrote that several companies seemed committed to spamming me even though I had unsubscribed several times to each of the various lists they had added me to.

I accused Dotster of such behavior. Turns out I had in fact once registered a domain through them, and though I don't remember checking a box that said "Send me regular sales pitches, oh please, oh please, oh please," I must have done so.

The result was that their messages were sent to the address I registered with, which happened to be an alias for my normal e-mail address. So when I sent my unsubscribe request it came from the real account and the request failed. Not that I knew the request had failed, mind you; there was no reply.

Of course, I am the only person in the world who uses aliases. And as I am also the only person in the world to make this mistake, adding code to reply to unsuccessful unsubscribes with "Sorry but we have no record of that address being subscribed," would be a waste of their time. Even so, mea culpa.

Beating-over-the-head department: On the other hand, another company I mentioned as being com-

mitted to blindly sending me spam, Diversity Business.com, still hasn't stopped. Three more messages this week. Strange, strange people.

Anti-deceptive practices department: Well, well, well. The Federal Trade Commission is doing something about spyware even though The Spy Act I discussed in BackSpin last week hasn't been approved by the Senate and thus is not yet a law. Nope, using existing laws (which confirms one of my points last week), the FTC has gone into attack mode against arch-spammer Sanford Wallace over his companies' use of spyware and deceptive marketing practices.

One of the things that Wallace's minions did was add a script to Web pages so that when you viewed the page in your browser the script ejected the CD tray. Now if you weren't expecting such a thing to happen you'd be a bit surprised. And when your Web browser then displayed a message to the effect that your system was compromised and you needed to do something such as buy software to fix the problem, if you were a naïve consumer that is exactly what you would do.

Wallace's companies not only did that, but they also installed spyware using deceptive links and dialogs and flooded susceptible PCs with pop-ups to get users to buy their SpyDeleter and SpyWiper utilities and collect information from users.

The FTC's civil lawsuit claims that Wallace and his

companies violated federal laws that prohibit "unfair or deceptive acts or practices in or affecting commerce."

Wow. So consider this: Microsoft's ads that erroneously compare the total ownership cost of Linux with that of Windows and find Windows the winner are not considered unfair or deceptive, while Wallace's companies' exploits are? The U.S. government is alone in this view of Microsoft's ads — the European Union (in agreement with everyone with half a brain who ever thought about the ads for 10 seconds) thought otherwise and recently ordered Microsoft to cut it out.

It appears that because an exploit carried out by a really big, wealthy company is more sophisticated than another carried out by a small company, the former should be ignored while the latter gets the full majesty of the government focused on it.

I am not in any way defending Wallace and company, or suggesting that their evil ways shouldn't be curtailed, I'm merely pointing out that the law is supposed to be blind and applied equally.

Apparently the FTC suffers from selective blindness.

Footnote department: In a blind panic over who to vote for? My friends at Infommersion have just put up <http://undecidedvote.org/> to help you.

Departmental memos to [backspin@gibbs.com](mailto:backspin@gibbs.com).



## 'Net Buzz News, insights, opinions and oddities

By Paul McNamara

### That Sun-HP dogfight

One of the first things a cub reporter learns in journalism school is the difference

between "dog bites man" and "man bites dog" — the latter being news, albeit of the oddball variety, and the former being merely painful.

Technology vendors barking at each other is rarely news. However, one vendor unleashing its lawyers in an attempt to stop a competitor from barking? ... That has a bit more bite.

Welcome to Sun vs. HP, a dogfight that features Sun President Jonathan Schwartz and his Weblog on one side, with an aggrieved HP and its in-house attorneys on the other.

I'll try to nutshell it for you: Schwartz in his blog and Sun in its advertising have contended that HP's Unix operating system, HP-UX, might as well be taken out behind the barn and buried because it has reached the end of the line. Schwartz speaks of this death in the past tense, not merely as an impending event.

HP begs to differ. In a letter to Sun from its in-house counsel and in comments to the press, HP has called Sun's aspersions against HP-UX "unfounded," "misstatements of fact" and "misinformation" ... pretty much everything but un-American. The legal missive gave Sun two weeks to realize the error of its ways and make amends.

Schwartz laughed off the letter while on stage at the Vortex 2004 conference earlier this month. And last week Sun told HP, in effect, "Go pound sand. We're not taking back a word of it."

An HP spokeswoman declined an invitation to tell me the company's next move, but did say, "HP still expects Sun to correct misinformation and stop doing a disservice to customers."

The lightning rod here has been Schwartz's blog — [www.nwfusion.com](http://www.nwfusion.com), DocFinder 4241. It is an unusual medium for such a high-level executive, but an

effective one given the author's way with words and his willingness to tackle controversial topics. (A Sun spokesman told me last week that Schwartz's blog entries are not lawyered before posting.)

"I think HP faces an enormous challenge," Schwartz wrote in an Aug. 16 entry. "And it's not related to the cancellation of PA-RISC, or weakness in their Itanium transition. Or even Dell's printer onslaught."

"To me, HP's problems spawn from the death of their operating system, HP-UX. Like IBM, they've elected to ask their customers and [independent software vendors] to move to Red Hat Linux or Microsoft Windows on x86 systems. ... If you're a customer, where does that leave you with your HP-UX investments? Facing untimely change — with a vendor no longer in charge of their OS."

Again, HP insists this is so much hot air. Yet Sun last week answered HP's lawyers with a point-by-point defense of its contentions.

Who's got the better case? HP seems sincere in promising continued fidelity to HP-UX. However, Sun mounts a plausible case that HP's actions belie its words.

Who's right isn't the point: What's notable is that this type of vendor vs. vendor dust-up is as common as, well, dust. Given that fact, what is it about Sun's offensive that would motivate HP to sic the lawyers on them?

"At the end of the day, Sun should be held accountable for its marketing claims," the HP spokesperson told me.

HP would be better served to heed the famous words of Supreme Court Justice Louis Brandeis, who, though he pondered free speech long before the Internet, nevertheless got it right: "If there be time to expose through discussion the falsehood and fallacies, to avert the evil by the process of education, the remedy to be applied is more speech, not enforced silence."

Brandeis was referring to government enforcement, of course, but the principle ought to apply to bare-knuckled business brawls as well.

HP isn't going to win this fight with lawyers — and shouldn't even try.

Direct amicus briefs to [buzz@nww.com](mailto:buzz@nww.com).



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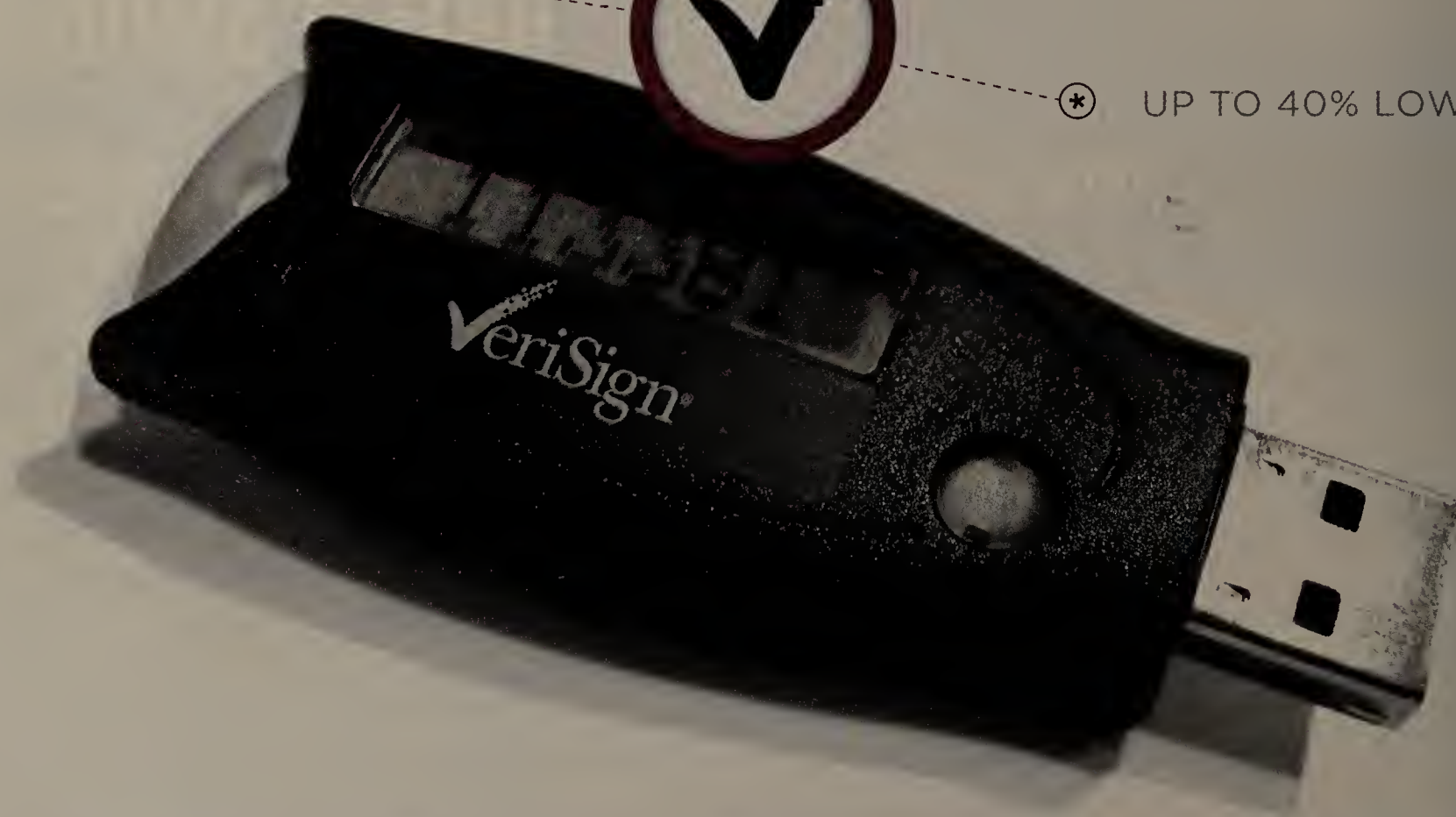
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